



CALIFORNIA

MANAGEMENT

REVIEW

Summer, 1959

VOLUME I • NUMBER 4

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Published by the Graduate Schools of Business
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Summer, 1959 VOLUME I • NUMBER 4

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Manuscripts may be of whatever length is necessary to present the material clearly and concisely. They should be submitted in triplicate.

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SUBSCRIPTIONS:

The *California Management Review* is published quarterly by the Graduate Schools of Business Administration, University of California, Berkeley and Los Angeles. Subscription rates: \$6.50 for one year, \$15.00 for three years. Single copies: \$2.00. Prices for reprints are available upon request.

Make checks payable to The Regents of the University of California. Address all inquiries to:

California Management Review
Graduate School of Business Administration
University of California
Los Angeles 24, California

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Second-class postage paid at Los Angeles, California.

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Vol. I, No. 4 Summer, 1959

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ROBERT P. FALK

From Poor Richard to the Man in the Gray Flannel Suit: A Literary Portrait of the Businessman

When Rip van Winkle, dazed and bewildered from his long sleep, returned to the peaceful Dutch village of his younger days, one of the things that had changed the most was the ruby face of King George painted on a sign over the inn. Somehow it had been strangely metamorphosed. The red coat had been changed for one of buff and blue, the sceptre exchanged for a sword, and beneath the sign was painted the name "George Washington." When he confessed to the curious crowd that he was a quiet man and a loyal subject of the King, they shouted: "A Tory! a spy! away with him!"

If the picture of King George had been a portrait of Benjamin Franklin, dressed in homespun, trundling a wheelbarrow to his printer's shop to impress his neighbors with his industry; and if Rip had remained asleep for another two hundred years to wake in 1950, he would find the picture of Poor Richard similarly metamorphosed into something else. He would see the portrait of a discouraged and frustrated youngish man in a gray flannel suit, standing in the shadow of a skyscraper labelled "The Organization." This transformation in outward feature of the American man of affairs and business seems at first as irreconcilable as that of the King into George Wash-

ington. To understand fully the stages by which it has taken place would take one on a long and complex journey into history, fiction, popular legend, myth, ideology, and the folkways which have shaped society and culture in America.

Literature, in its broadest sense, is one avenue of explanation for such changes; for it touches at least partially all of these things. Furthermore, literature often influences the way men behave by giving them a lasting picture of themselves. Life imitates art. And if we look there for a portrait, or a series of portraits, which may help explain the transformation of the businessman from the image of Poor Richard to that of his modern counterpart, we may be able to distinguish certain patterns along the way. For convenience, I have arbitrarily selected five perspectives, roughly corresponding to stages of American life, in which one may discover changing attitudes of society toward the man of affairs: first, the hero-worshipping tradition of Poor Richard and the later counter-image which has grown up around him; next, The Yankee Peddler, Horatio Alger, and the businessman as representative Americans; third, the strong man of the Social Darwinists; fourth, Babbitt, Anti-

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Babbitt and the Marxian coloration; and finally, the Organization Man in a gray flannel suit.

A closer look at the tradition from its beginning to the present may reassure us that it does contain a measure of continuity, some family resemblances and recognizable features which will indicate that the contemporary businessman is not entirely a curious visitor from a remote but well-"organized" planet.

POOR RICHARD: MYTH AND COUNTER-MYTH

Turning the pages of a recent issue of *Harper's Magazine*, I stopped for a moment at a picture of Benjamin Franklin, one of those heroic portraits which seem to register all of the thirteen virtues in one determined expression. It rang a bell at once, as it was no doubt intended to do, signifying the confidence and financial security of the man who has "arrived." What secret did this man possess? the reader was asked. Write for a free copy of the booklet, "The Mastery of Life," to the Society of the Rosicrucians and learn to grasp the inner power of your mind. Follow Franklin's road to success and happiness. Here, still intact, was the earlier American dream of poor-boy-to-Senator, or rags-to-riches, apparently with enough vitality left to justify the considerable expense of a three-quarter page ad in *Harper's*. The legend has received no small amount of debunking in the century or so of its existence, but somehow it seems to have survived as a lure for those who will send for the pamphlet rather than buy a copy of Franklin's *Autobiography* and see for themselves.

Across the page in the same issue of *Harper's* was a column reviewing the new books of 1958 by Paul Pickrel. The author discusses the modern business novel, drawing a composite picture of the businessman as he emerges from the pages of a dozen or so books of 1958 about the men making money. Most of these "Martini operas" of the business scene today, he

says, are written by "ad-men" in public relations or management-diplomacy. The main character is a youngish man who struggles alone and without an assured place in society against the bureaucracy of management, the pressures of competition, and "the stifling atmosphere that results from trying to do everything in groups."

This new businessman, says Pickrel, has not gone to the "right" schools and does not come from a background of social class or family connection. He is in his middle thirties, has a good income and bigger expense account, but no real security. He depends upon his talent to win him a place in society and a promotion in the Organization. His struggle to maintain himself and to keep someone from pulling the rug out from under him is the essence of the story. He is sometimes a family man and suburbanite with children to educate and a country club to join; but often he is quite alone and has time for nothing but the most elemental relations with women. He strives to hang on to his job not so much against others who would like to climb over him, but against the more elusive enemies—bigness, bureaucracy, and the indifference and ambiguity of the "front office." His prospects are usually left uncertain at the end of the book.

We shall see that certain resemblances do exist between Poor Richard and the "organized" man of today, but first we should try to account for the obvious changes. The great difference between the two figures is in the attitudes each took toward society and its attitude toward them. Here Franklin had much the better of his twentieth-century counterpart. For, since about 1830 or 1840, there has taken place a steady chipping away at the ideal of hard work and success to which his name has been irrevocably tied.

A counter-image has grown up to challenge the original and to tarnish somewhat the earlier American dream. There are many sources for this belittling tendency—the gen-

eral "debunking" of great men, the revolt in the 'twenties of the younger generation, new tastes and changing values. More precisely, there have been two streams of anti-Franklin and anti-success philosophy—one from Europe and the other from Greenwich Village. The first originated with European critics of American materialism, Harold Laski, Max Weber, R. H. Tawney and their American followers who have identified Franklin with the "Protestant ethic" which in turn combined with the spirit of capitalism, thus endowing material success with the blessing of God. This concept is traced to the Puritans and ultimately to John Calvin, who have bravely borne the onus of everything that is considered wrong with American society today. And Franklin is placed in its mainstream as one who found religious sanction for what later developed into a competitive struggle for survival in the world of business.

The other support for the counter-image of the business ethic belongs to the history of Bohemianism in America, climaxed in the warfare between Greenwich Village and *The Saturday Evening Post*. Malcolm Cowley has described this "War in Bohemia" as a battle between the artistic ideals of self-expression and the middle-class doctrine of *production*. The *Post* had attacked the "Greenwich Village idea" about 1920 in a series of articles. The artists struck back from garret and cellar to defend the ideals of freedom, paganism, living for the moment. Marshalled against them were the full forces of the Protestant ethic—thrift, industry, self-denial, saving for the future and, above all, *production* of more and more goods without thought of their ultimate value. Cowley reads this story as one of final victory for Bohemia over Philistia, when ironically the revolt of morals and manners forced business to adopt the values of the Village in order to find new markets for its products. The new morality created a demand for cosmetics, cigarettes for women, movies, radios, auto-

mobiles. Gradually middle-class families began to yield to the looser standards of the Village until business found itself "going Bohemian."

But the victory, if such it was, was by no means final. Old ideas cling, and revolutions in folkways are seldom final. In the 'thirties, the old antagonism revived in political and economic terms. The welfare state of the New Deal won the national vote from the proponents of a more conservative business administration, and collectivism was in the saddle. World War II, however, brought regained prestige for business efficiency. It was generally agreed that production was a decisive factor in the victorious outcome over Fascism. Yet the basic controversy lay deeper than national issues, even wars; and the age-old struggle between poet and propriety, Bohemian versus bourgeois, and the ultimate conflict of goals between town and gown or academy and marketplace goes on beneath the changing social scene.

All this has had an indirect bearing upon the businessman of fiction and the gradual historical modification of the older portrait of Poor Richard. And if we take up the story during the 1830's, the bustling decade of Jacksonian Young America, we can see the beginnings of a new tradition of the businessman which was to develop somehow alongside the Benjamin Franklin myth, share some of its seriousness but at the same time bring to it an element of humor and a critical edge which would lend support to the later and counter-image of Poor Richard. This change began with the Yankee peddler and confidence man.

THE BUSINESSMAN AS AMERICAN

In 1836 Thomas C. Haliburton, a Canadian writer, published the first of a series of books called *The Clockmaker; or the Sayings and Doings of Samuel Slick*. Building upon a tradition of the shrewd and rustic Yankee peddler, Haliburton struck a chord which first indicated that the businessman was to become identified

with the national ethos. Sam Slick was a prototype of the ubiquitous Yankee salesman and clockmaker who could sell a \$6.00 clock to a tight-fisted New England farmer's wife for \$40.00 when she didn't even want one. Sam was a rustic Yankee doodle dandy, first cousin to Brother Jonathan who was the early Uncle Sam. As a businessman he was shrewd, succeeding by combining "soft sawder" with a knowledge of "human natur." Later, Sam became a storekeeper, interested in politics, a cracker-barrel philosopher like Jack Downing, speaking the democratic idiom—a combination of bad grammar and horse sense.

Sam Slick was a businessman not quite of the earnest and ambitious Poor Richard school, but admired nonetheless by readers of nearly twenty editions of Haliburton's series in Europe and America. As a real "slicker," however, he was outclassed by the frontier opportunist, Simon Suggs, invented by Johnson Hooper. Suggs was a genuine rascal of the flush times on the Mississippi whose motto was: "It's good to be shifty in a new country." But something of both Suggs and Sam Slick began to mingle with the Ben Franklin tradition in the years before the Civil War. Peddlers and confidence men combed the rural communities in the mid-west and mingled with the crowds on the steamboats plying the Ohio and Mississippi rivers. When Herman Melville in 1854 wrote his picaresque adventure of *Israel Potter*, he carried his folk-hero, a kind of early Huck Finn, through a series of frontier experiences which included the role of the long-legged, smooth-talking Yankee peddler. Potter goes to France and meets Ben Franklin, who is portrayed as a canny rustic in knee breeches doing Israel out of something at every turn and then reading him a moral lesson. "Every time he comes in he robs me," Israel complains, "with an air all the time, too, as if he were making me presents."

Melville wrote a tale of Wall Street called "Bartelby the Scrivener" and also another

novel called *The Confidence Man* (1857) which combines in its main character the features of the Yankee peddler, Brother Jonathan, and Uncle Sam. "Confidence" is a word which can be taken in two quite opposite senses and Melville seems to show his character in the dual, contradictory roles of canny trickster and Christ-like preacher of faith in one's fellow man. Mark Twain's famous Colonel Sellers in *The Gilded Age* (1874) varied this pattern of the businessman, portraying him against the background of a rapidly expanding frontier society after the Civil War. Sellers is a likeable, impractical dreamer of getting rich through patent medicines and impossible gadgets which he never gets around to inventing.

But in the 1870's when fortunes were in the making and the fluid conditions of a swiftly-moving society allowed freedom and exploitation to prevail, the satirists were in the minority. The way to wealth became the American way of life and the successful businessman became the national hero. On the popular level this new attitude influenced several generations of American youth in the person of one "Ragged Dick," the first of a long series of boy-success stories by Horatio Alger. Dick was a bootblack, a bright boy who made the most of his chances, climbing the steps of the ladder, armed with prudential wisdom and Poor Richard aphorisms, to become in the end a rich and respected merchant. Tens of millions of Alger's books were sold between 1867 and 1910, and it would be hard to exaggerate their influence. As literature the stories were badly written, the characters typed, and the morality banal, but as doctrine for the values of individual enterprise and getting-ahead by pluck and luck (not by confidence-man tricks), their influence upon a generation of boys who became businessmen in the early years of the present century was tremendous. So great, indeed, was Alger's influence that when business conditions changed radically after 1920, many businessmen found themselves still clinging to

the easy, ready-made philosophy of Ragged Dick long after it had lost its relevance to the existing situation.

On a higher literary level, however, the businessman was studied more seriously. To Henry James and William Dean Howells, he was the new man of America, a type that had to be reckoned with, and they devoted long novels to his literary portrait. In his novel *The American* (1878) James represented him as Christopher Newman, a typical American exploring the cultural values of Europe, the first tourist abroad. Newman was a millionaire from California involved in a romantic affair with Claire de Cintre, the daughter of an aristocratic French family down on its luck. James's portrait of Newman has certain satiric touches—he made money in leather and in wash-tubs, "which were lovely," he is an innocent abroad, naive about art and cultural things, and he is regarded by the French with a kind of legendary wonder as a Paul Bunyan of finance who owns an entire city in the West inhabited only by people who don't smoke cigars!

Newman is, however, no ancestor of George Babbitt. He belongs to the period in which the businessman was painted in heroic proportions, but without the taint that has come to be attached to his real contemporaries—Jim Fisk, Jay Gould, and Cornelius "the public be damned" Vanderbilt. Newman has their dash, daring, recklessness, and towering freedom of movement without their unscrupulousness.

"You stand up, so very straight, for accomplished facts [says his friend Valentin de Bellegarde]. You've made a fortune, you've raised an edifice, you're a financial, practical power. . . . What I envy you is your liberty, your wide range, your freedom to come and go. . . ."

In the end he proves morally the superior of his French counterparts, though frustrated in his hopes of marriage. Newman was constructed of romantic materials. Business was only a means to an end with him and he was indissolubly linked with James's concept of the idealized American type.

James saw his businessman through a European perspective. Howells, on the other hand, viewed Silas Lapham (*The Rise of Silas Lapham*, 1885) in terms of the workaday business life of a newly-rich, uncultured man involved in a moral problem and perplexed by his social-climbing family which seeks to crash Boston society. Lapham is Howells' answer to the charge that all businessmen of the Gilded Age were amoral tycoons and robber barons. His wealth came from a paint mine on the family farm in Vermont. He had forced his partner out of the business just before the value of the paint was to double, and the action, though not entirely one of greed, was done in a spirit of selfishness. In the end Silas makes amends for his action, goes into bankruptcy rather than make a deal which might have saved his business, but ruined many small investors. Lapham's ethics are sound, his intentions good, and his table manners atrocious. But Howells manages to make him believable and even sympathetic. Even now, his portrait of Silas Lapham rings truer than some of the pictures we have from historians who have described the real businessmen of the 1880's in terms of a social or economic "thesis."

James, in later books like *The Ambassadors* (1903), continued to hold to the favorable view of the businessman as representative American, but Howells became increasingly concerned over the class conflict, strikes, and labor disturbances of the late 1880's and early 1890's. In *A Hazard of New Fortunes* (1889) his portrait of Dryfoos, a later and degraded Silas Lapham, becomes increasingly critical, looking forward to the vogue of muckraking novelists of the turn of the century.

THE CULT OF THE STRONG

In the 'nineties the Social Darwinists began to create in American life a cult of muscle-worship which had important ramifications in politics, society, and business. Teddy Roosevelt charged up San Juan Hill in a symbolic

gesture of might, right, moral athleticism, and virtues of the outdoor life. John L. Sullivan, "the Strong Boy of Boston," became a national hero, The Message to Garcia a national creed, the Gospel of Wealth a rationale of big business. William Randolph Hearst helped justify a questionable war with jingoistic journalism. In short, America was flexing its muscles in an effort, perhaps, to forget some of the disturbing forces which had threatened to erupt into class-conflict, Populist revolts, agrarian discontent, and labor troubles. In fiction there developed a cult of the strong.

Jack London wrote novels which glorified animals with human feelings and men who acted like wolves or Alaskan huskies. Frank Norris admired "the brutal bullying instinct" which prompted the struggles between freshmen and sophomores at Berkeley. He proceeded to write a series of novels about business which were a mixture of Darwinism and romance. Curtis Jadwin, the hero of *The Pit* (1902), is a capitalist and speculator formed on a grand scale who appeals to Laura Dearborn, the heroine, because of his masculine proportions, his broad strong hands, and his look of relentless, unswerving will and purpose. Uneducated and awkward among women, in art museums, and at the opera, Jadwin is nonetheless Laura's (and Norris') choice over the artist, Sheldon Corthell. She weighs the cult of the beautiful against the cult of the strong and casts her lot with Jadwin's because, daughter of the frontier as she is, she is fascinated by the drama of The Battle of the Street, the challenging struggle which went on in the wheat pits in the Chicago Board of Trade. "Only the strong and brave might dare it, and the figure that held her imagination and her sympathy was not the artist, soft of hand and of speech . . .; but the fighter . . . hard, rigorous, panoplied in the harness of the warrior, who strove among the trumpets. . ."

Here is the first clear portrait of the strong

business-hero as a virile Roman, a larger-than-life representative of the American scene, a kind of Leatherstocking transferred to the Board of Trade. His motive is not money, but the excitement of the speculating game, the sense of power in cornering the market in wheat. He is impelled to gamble by a restless force within him and he is drawn further and further by a combination of luck and genius. In the end he is destroyed by a more powerful force than himself, the wheat, but Jadwin has become a tragic hero, a figure of romance, who gains stature even in defeat.

Jadwin stands alone, as all business heroes did in the strenuous age. There were others like him in the fiction of individual enterprise which preceded World War I. Van Harrington in Robert Herrick's *Memoirs of an American Citizen* (1905) rises from farm boy to senator by the application of Darwinian ethics to the meat-packing industry. He survives by the cult of the strong, by rejecting the tender conscience of women and the clergy, and by acknowledging that climbing the success-ladder is "no gospel game." His code is that of the jungle—"to live in any age," he meditates, "you have got to have the fingers and toes necessary for that age." Unlike Jadwin, Harrington's twin motives are money and power, to be like the other men of wealth he saw in Chicago. "What was the golden road? These men had found it—hundreds, thousands of them,—farming tools, railroads, groceries, gas, dry-goods. It made no matter what. . . . To take my place with these mighty ones—I thought a good deal about that in those days!"

Van Harrington is shrewd, strong, masculine, attractive, fundamentally honest, but willing to sacrifice principle rather than to fail or be crushed by others in his drive for power. He and Dreiser's Frank Cowperwood are full-blown Napoleons of muscular capitalism. Cowperwood, modelled on the career of the industrialist Charles Yerkes, accepts without ques-

tion the doctrine that men are cannibals, living on weaker men. He is both an egotist and an intellectual. Business-success is for him a challenge. The world of money is a "game." Finance is an "art," like chess. His impulse is to exercise his talent, to test his strength, not greed or gain *per se*.

Dreiser follows the fortunes of his Nietzschean superman through two prolific novels, *The Financier* and *The Titan* (1912, 1914). After marrying the widow of a wealthy merchant, he gets a start in the brokerage business, edges craftily into politics, and manages to score a coup by cornering the field in street-railway securities. Sex rears its lovely head in the person of Aileen Butler, the daughter of a street-paving contractor with whom Cowperwood has done business. She becomes his mistress, but the girl's father has the relationship exposed by detectives and Cowperwood is arrested and sent to prison for embezzlement of municipal funds. He is soon pardoned and returns to Philadelphia where the failure of Jay Cooke in 1873 enables him to recoup his fortune and exploit the market for millions of dollars.

Cowperwood is a fairly simple combination of financier and lover, Machiavelli and Don Juan, merchant prince and "sexual freelance." Dreiser does not pull his punches in presenting without apology the jungle ethics of the strong man. A product of nature, he is not responsible for his superiority to the ordinary herd. It is he alone who moves forward despite the mass mediocrity. There is an epic quality about his portrayal of the rise of a powerful individual, succeeding because he is the fittest to survive among conditions of the struggle and competition for existence and for power. When he was interviewed and asked about the right and wrong of the financial titan's activities, Dreiser replied there was no such thing in nature as the right to do and the right not to do.

The financial type is the coldest, the most selfish, and the most useful of all living phenomena. Plainly

it is a highly specialized machine for the accomplishment of some end which Nature has in view. Often humorless, shark-like, avid, yet among the greatest constructive forces imaginable.

In his delineation of Cowperwood's love-life, Dreiser added a new dimension to the portrait of the businessman which was to become a pervading motif of the later, Freudian novel. Unlike Curtis Jadwin or Van Harrington, who find their married lives amusing but something of a hindrance in their drive for power, Cowperwood becomes deeply entangled in the "chemistry" of sex, almost to the point of making him a tragic figure and the victim of his own illicit passion. He escapes the penalty of this romantic flaw, however, and continues on toward his goal of power, wealth, intellectual superiority, and social nobility—or at least, as he says, the appearance of these things.

These and many other novels of the business superman, written in the first decade of the twentieth century, show characteristics almost unknown to earlier and later examples of the *genre*. For one thing they concentrate with gusto upon the details of such things as the complex workings of the grain exchange, the formation of combines and trusts, the fluctuations of prices, the hard bargaining behind closed doors, the maneuvering involved in cornering the market in railway securities. Such information is narrated with a view to communicating information and telling the "inside story," even where it adds little to the central plot. The main character is the man of individual enterprise, his decisions are vital, nor does he submit them to a committee. In the end, he is seldom regretful of his actions, even though he is not satisfied with the result, and if he is brought low, he retains the reader's sympathy as for a giant in chains.

The strong man of the 1890's and early 1900's in fiction carries over something of Ben Franklin's determination to get ahead, and something of the disregard for principle of the peddler and the confidence man. He is Alger-

esque, too, in his "rise" from poor boy to a position of respect and greatness. Unlike Franklin, however, he is not even slightly concerned with virtue or character for its own sake. He has no use for Christian morality or "gospel games." In fact, to judge from the three business-heroes we have described, the cult of the great entrepreneur does not bear out the theories of Max Weber, R. H. Tawney, and other historians that the Gospel of Wealth and the Protestant ethic tended to sanctify business by endowing it with the blessing of God. All of them reject Christian ethics in favor of the law of the jungle. They agree, in general, with Frank Cowperwood, who learned his lesson early as a boy passing a fish market and watching a lobster slowly devour a squid. The sight answered for him the riddle of life: "How is life organized?" he asked himself. "Things lived on each other—that was it."

BABBITT, ANTI-BABBITT, MARX, AND FREUD

The reaction against the cult of the strong began in the 'twenties when Sinclair Lewis in *Babbitt* dealt a death-blow to the business hero of the Gilded Age. The strong, amoral tycoon became in his hands a timid follower of orthodoxy, a repeater of slogans, and a blundering pursuer of manicurists or neighbors' wives. Babbitt is a scarcely recognizable descendant of Frank Cowperwood or Van Harrington. The Alger-myth has disappeared. Babbitt does not rise, he simply wallows. He lives in a world of tasteless vulgarity, domestic boredom, and Rotarian boosterism. He is pathetic because his aims are so petty and he takes them so seriously. Lewis stacks the cards against him by depriving him of all largeness. His business is selling real estate (he prefers the term "real-tor"), his ideals are defined by the Chamber of Commerce of Zenith and what Mencken called Warren Harding's "Eden of clowns." Babbitt is a *boobus Americanus* par excellence, though in the end he senses dimly that his life

lacked something, a freedom to do what he wanted, and he clumsily but honestly encourages his son Ted to take the job he wants and work out his destiny in his own way.

A re-reading of *Babbitt* cannot but impress one with the brilliance of Lewis' satiric pen and his incomparable mimicking of the empty banalities, the "by-Gosh, by-Gee, by-George" imprecations of the middle-class cliché-expert. Babbitt is honest in business, but his honesty is somehow made to seem far less admirable than the unprincipled ambitions of Dreiser's Cowperwood—a fact which once again confirms the old literary truism that heroic irregularity can be made more attractive than timid respectability. As a portrait of the businessman, Babbitt is a figure of satire, a caricature.

But Lewis partially redressed the balance in *Dodsworth*, an automobile magnate who sells his business, like Christopher Newman, and sets out to find the larger life in Europe. He fails to adjust to a more complex and graceful civilization and returns to America, but his defeat has brought a certain depth to his character. He rises in the reader's esteem by courageously refusing to take back his pampered wife who has deserted him for an Austrian nobleman. Dodsworth is a partly tragic figure, instead of a ridiculous one, but like Babbitt, his soul has been damaged by the philistinism of his circumscribed existence. "He would certainly produce excellent motor cars; but he would never love passionately, lose tragically, nor sit in contented idleness upon tropic shores." The ideals of self-expression and Greenwich Village, which Lewis here exalts, would never be his.

The career of Sherwood Anderson, so nakedly revealed in his books (which are a mélange of Freudian dreams, Bohemianism, the revolt against middle-class ideals, nudism, and other "wistful idealizations of the male menopause"), epitomizes the conflict between art and business in the 1920's. In such novels as *Many Marriages* (1923) and *Dark Laughter*

(1925), Anderson portrayed himself, a businessman in a small town at the age of forty, suddenly rebelling against the repressions of standardization, the acquisitive life, factories, families, Rotarianism, and the machine age. Like John Stockton in the latter novel, he undergoes a spiritual eruption and walks out of his old life into one of new freedoms, life on the Mississippi, bumming, loafing, and dreaming in an exhibitionist effort to recapture Mark Twain's mood. As a youth Anderson had thrown himself imaginatively into the excitements of the money-game and the thrills of business expansion. At forty he did a complete reversal, and his books were an expression of the traumatic division which overtook him at mid-life. His rebellion was as extreme as had been his earlier immersion in the American dream of success. Writing and sex became his new ideals. Like John Webster, one of his characters who had been a washing machine manufacturer living a middle-class family life, he felt that he had missed "Life." Webster takes to walking naked up and down before a picture of the Virgin Mary and finally leaves his home to run away with his stenographer.

But Bohemianism as a literary vogue spent itself somewhat by the end of the decade. *Dodsworth* was a sign that even the truculent author of *Babbitt* could see its limits. In 1927 Booth Tarkington wrote the most effective anti-Babbitt novel of the 'twenties in *The Plutocrat*, in which he neatly reversed the values which Mencken, Lewis, and Anderson had espoused. Earl Tinker, its hero, is a colorful, likeable businessman who finds himself in a Jamesian situation while on a vacation trip through Europe. He harks back in certain ways to the virile, Napoleonic businessman of an earlier time. Tinker is at first seen through the eyes of Laurence Ogle, a young playwright who wears his Bohemianism on his sleeve as obviously as does Babbitt his Boosterism. Ogle falls in love with a mysteriously attractive woman of European origin, Mme. Momoro, who per-

versely seems to prefer the company of the poker-playing, cigar-smoking, rough-and-ready president of the Illinois and Union Paper Company. Tinker is conscious of his crudeness, but it never bothers him. In the end the turnabout is completed. Ogle and his ideals are discredited by contrast with the greater stature of Mr. Tinker who becomes, for all his superficial vulgarity, a formidable figure, generous-minded, responsible, and above all energetic. He is called a "New Roman," virile, triumphant, riding a white camel in barbaric pomp toward long-conquered Carthage. "He is a great barbarian," Mme. Momoro tells the disillusioned young playwright, "with great power. . . . He is as careless of his power as he is of everything else. Do you remember how he bought all the fruit at Gibraltar, and tossed it to those poor people in the steerage?"

Tarkington's effort to restore the businessman of the Howells and James era, however, ran counter to the trend, and the attack which had been Bohemian in the 'twenties, became doctrinaire and proletarian in the 'thirties. The muckraking novel of which Upton Sinclair's *The Jungle* (1905) had been a classic example—a socialistic account of the evils of the meat-packing industry in Chicago—returned with a new kind of Marxian bitterness during the New Deal and the depression decade. Ideology began to crowd out characterization, psychology, and humanity. In the hands of such writers as Dos Passos, Steinbeck, Robert Cantwell, Samuel Hopkins Adams, James Steele, Mary Heaton Vorse, and Christina Stead, the novel of business was used as a platform for various spokesmen of the social left.

In Dos Passos' *The 42nd Parallel* (1930) and *The Big Money* (1936) the focus is on the class war. He does not attempt an extended portrait of a businessman so much as a kaleidoscopic impression of a cross-section of American life in the 1920's, in which a rootless, drifting population searches for freedom and personal liberty in the stifling atmosphere of a

commercially-organized society. One of these people, Charley Anderson, is a kind of symbol of the evils of capitalism. He returns from the war as a hero, becomes a financier in Detroit, but gradually declines to become a waster, a drinker, and a failure. Dos Passos dreamed of some new organization of "the masses," or rather no organization at all, but a world in which property was abolished and man ceased the economic war against man. His was a voice crying in the wilderness: "Oh, if people would only trust their own, fundamental kindliness, the fraternity, the love that is the strongest thing in life."

Dos Passos could be more aggressive than this in attacks upon Henry Ford and the assembly line, and in these moods he more nearly expressed the virulence which characterized the depression novel. Frederick Wakeman in *The Hucksters* described Evan Llewellyn Evans, a soap tycoon, as a kind of Laskian monster, or a Marxian distortion of reality. Samuel Hopkins Adams's *Plunder* is a story of business corruption in Washington. All businessmen in the novel are "predatory," devoid of sensitivity, and look like "huge gorged saurians." All are five-percenters (before the term gained currency) out to deceive the government, manufacturing planes which "crashed in deathly heaps," shells which backfired and caused great slaughter on the ranges, ships which broke in two on the waves. *Plunder* is a narrative written without warmth or understanding, but in bitterness and spite.

After Dreiser the novels of business step up the pace of sex and sensationalism. Once seduction scenes begin to appear (and at first they were tentative, suggestive, requiring long chapters of preparation), the progress toward freedom is swift. Physical details enter more frequently, multiple scenes are employed, the description becomes increasingly frank and spirals to its climax in fewer pages and more gripping language. Sex becomes a release, an escape from the pressures of business life,

but writers (and readers) love it for itself alone. Of Christina Stead's *A Little Tea, A Little Chat* (1948) John Chamberlin remarks that the businessmen "spend so much time getting in and out of bed that one wonders how they have time to make money." Mary McCarthy's *The Man in the Brooks Brothers Shirt* portrays the Bohemian-Philistine hassle in terms of a seduction on a transcontinental train of an *avant-garde* girl novelist by a traveling salesman for a steel company. The outcome is inevitable—the two worlds are incompatible.

It is no news at this point in history that the shadows of Marx and Freud have dominated the contemporary novel and affected markedly the portrayal of the businessman, as well as other characters of fiction. In the 'thirties it was 75 per cent Marx and 25 per cent Freud. Today, the percentages are reversed. In the 'thirties the anti-business novelist won easy victories. In his mind was an idealized form of state socialism, writes John Chamberlin in *Fortune* (1948). He demanded a state-endowed social security, with drastic limits on freedom—for the businessman. He tended "to contrast the world of free capitalism with a perfect socialized order that had no existence outside his own head." No mere human businessman, Chamberlin said, could stand up against a perfect figment of the idealist's mind.

ORGANIZATION MEN, BUREAUCRATS, ADMEN

After World War II there was a noticeable upturn in the number of novels devoted to the businessman, but the accent shifted away from depression and class-conflict themes to the problems of the youngish man who returns from military life to re-establish himself in the business world. Tom Rath, in *The Man in the Gray Flannel Suit* by Sloan Wilson, has become a symbol in the public mind of this new type. Unlike his counterpart of World War I,

he is not a rebel, a wastrel, or a rich boy of the Fitzgerald era. Nor is he one of the brooding members of a lost generation. Instead, he is an "Organization Man." His wartime experiences have taken away his desire to struggle. There are plenty of jobs, and the problem is to get the best one possible. Tom Rath seeks security, a place in the exurbanite society of the big city, and he does not want challenge or responsibility. He is conservative, tired. He wants mostly to "get along." He is a bureaucrat.

Charley Gray in J. P. Marquand's *Point of No Return* is another of the post-war business executives who fits this pattern. The writer's interest is to show the business career from the point of view of Charley's home life, his wife, their prospects for joining the country club and achieving "status" in suburban society-life. The big question in the Grays' life turns on whether he will be promoted to a vice-presidency of the Stuyvesant Bank. Marquand is only incidentally concerned with the details of banking and investment, and the emphasis falls on delicate problems of diplomacy, Charley's relations with his boss, the whole touchy matter of "getting along" with his superiors, "togetherness," and his relations with his wife and children. Lunch at the Harvard Club is a ritual, learning to call the boss "Tony" instead of "Mr. Burton," exchanging gossip with the brass on his way to work in the commuter train—such are the details on which his future depends. Frustration and resignation are the keynotes of this novel. When the announcement comes that he has been promoted over his rival, Charley is not greatly moved. "It was like the time at Dartmouth when he had won the half-mile at freshman track. He felt dull and very tired."

Charley Gray and Tom Rath are in positions which are relatively secure, but from which there isn't much they can rise to, or struggle for. Their desire is to keep the status quo. They don't rebel because there isn't anything

to rebel against. The "company" dictates their way of life, but it is a comfortable one and they don't protest. Such rebellion as they feel is a kind of puzzled questioning of the value of it all. The only escape from frustration is in dreams, remembered war experiences, or sex (like the "affair" in Italy which produced a child for Tom Rath and threatened to disturb his domestic security after the war).

Babbitt, too, had had moments of questioning whether it was all worth while. Novelists of more recent years find this tone of doubt, of wondering what it is all about, where it will all end, and what reason exists for pursuing the "old rat race" a prevailing motif in their treatment of the business executive in the Organization. In *Jefferson Selleck* (1951) Carl Jonas has portrayed a wiser, sadder, mellower Babbitt of the 1950's. Selleck is middle-aged, a partner in a small company manufacturing tune-playing automobile horns. After a heart attack he is advised by his doctor to occupy himself by writing his memoirs, thinking over his past. Like Babbitt, he is a small-town joiner, a Republican, a suburbanite, and a member of the country club. What values he finds in his past life show certain positive ideas about his middle-class experience. He believes in the principle of work because it is "not unlike religion" and it gives him a sense of continuity and a faith that the world will keep on turning. He is puzzled about his life, and not really articulate, but he comes to terms with it, with his family, marriage, and even the rather tentative religion he has practiced.

Revolt against conformity shows itself in some of the recent business fiction, but is more the exception than the rule. In *From the Dark Tower*, Earnst Pawel describes the kind of brain-washing which a large insurance company imposes upon its members, from the top executive on down. The president points out that no employee can live two lives, a private life and a company life. All must worship the Tower, which becomes a symbol of the extinc-

tion of the individual. In return it offers "security" and "togetherness," but these are not enough for Pawel's hero who finally has the courage to resign rather than accept a new position which is offered him.

Revolt of a different kind is the theme of Ayn Rand's *Atlas Shrugged*, an 1100-page tome about the search for a new world of science and industry, freed from the restraints, parasites, "looters," and all the vermin of governmental bureaucracy and labor unionism who try to force the still existent, old-style business tycoon to his knees. Miss Rand's book is a fantastic piece of rightist propaganda and science fiction, symptomatic, however, of the present tendency of multiple-bureaucracies and strangling organizations to throttle the drive of productive business to get things done. The revolt in *Atlas Shrugged* is that of a few dynamic producers against a society (rather vaguely described as "they") which would cripple production and send civilization back into a hand-craft barbarity. The producers symbolize "reason" and pit themselves against the enemy, the "mystics of the spirit" who would deny "reason" (i.e., material progress).

The recent "Martini operas" of business discussed by Paul Pickrel concern young men in TV and newspaper advertising, merchandizing in a department store, public relations, and the drug business. In *The Admen* Shepherd Mead is concerned with the efforts of a young adman to hold to certain standards of integrity and creativity against a corporation manufacturing Broil-Around Roasters. The president seeks safety and security, stifling the advertising game by old-fashioned ideas. In *A Really Sincere Guy* by Robert Van Riper, Bill McCrary is a typical hero of the latest business novel. He is a middle westerner, product of a small unfashionable college, with a big income, but no security except his job. His egotistic boss tries to force him, against his own principles, to undertake a campaign in favor of high tar-

iffs. The conflict of ideals and company interests finally forces Bill to resign, though he holds to the belief that public relations is an honorable calling. *Pax* by Middleton Kiefer is the story of another adman, this one involved in selling a new tranquillizer named "Pax" before it has been unambiguously tested in the laboratory. Politics complicate the problem when a Senate committee begins to look into the practices of the drug industry. Joe Logan is a far-seeing hidden-persuader who succeeds in preparing the way for Pax by a subtle means of favorable propaganda for the Raven Pharmaceutical Company, but in the end his high-pressure public relations backfire on the company.

None of these Organization novels, with the exception of *Atlas Shrugged*, takes a black-and-white position either for or against business as such. Most of them lean in sympathy toward the individual businessman in his struggle against conformity and dishonesty and standardization, but the middle-man hero is by no means whitewashed. At least some of the taint of the Organization has rubbed off on him. In his relations with women, he is usually faced with two alternatives—one of whom stands for values, the other for sex. Most of the novels turn on this theme: can a man maintain a certain integrity in the business world against the built-in timidity and conservatism of the Organization and its executives.

Some of them recall the naturalistic fiction of Dreiser and Norris in setting out to tell the "inside story" of a certain business. The picture is usually a depressing one. *Pax*, for instance, shows the way in which the sales manager and the publicity man of a company which has produced vermifuges for the army attempt to launch an anti-histamine compound as a tranquillizer and to put it out without prescription in an advertising campaign to hit the big, national market. The drug has not been unambiguously tested in the laboratory, it circumvents the Pure Food and Drug laws,

and is not even certainly a tranquillizing compound, but Joe Logan proceeds with the publicity, touching new heights of psychological hidden-persuading. One of his ideas is a radio commercial designed to create the need for the product by describing with sound-effects the strains and tensions of modern life. First, a soothing voice tells of the infinite peace of the embryonic soul in the womb. Then the announcer says: "Prepare for the trauma of birth!"

(Another silence. Then suddenly, from a speaker in the back of the room, a woman's shriek cut through the silence, long and piercing.)

"From infancy onward," continues the voice, "you are subject to a thousand tensions . . . you try to relax. . . ."

(A child's scream was cut off sharply by the squeal of brakes which merged with the sound of an automobile horn.)

Public relations has become the critical department of business in these novels. It controls sales, production, and overrides the will of the president himself. All depends upon its success, and it is not just the product, but the company itself which requires public sympathy, good relations, and a favorable press. There is a change here, even from the kind of organizational fiction which Marquand and Sloan Wilson wrote. The businesses themselves are marginal ones trying to become bigger. The businessman is in the middle position, hoping to pull off a "coup" and get a promotion through his own ingenuity and inventiveness. He lives hard, drinks for relaxation, and becomes cynical or has his natural cynicism confirmed by the business "game." Sex has now become a part of the game. He connives with a pretty secretary who is often a bosomy persuader on her own part. In the end he does not either rise or fall, in the older sense; instead his fate is left ambiguous or he rebels and throws up his work for a return to writing, art, or a more creative and less organizational activity.

VARIABLES AND CONSTANTS

Business itself, and social attitudes toward it, have changed vastly from the innocent days of Poor Richard to the present era of the Organization. "A penny saved is a penny earned" is nonsense in a day when a dollar spent for advertising means a quick return in dividends and sales. And it would be poor public relations for the owner of a printing shop to be seen trundling his supplies to work in a wheelbarrow or driving his own delivery truck. The struggle to succeed has shifted from the individual to the company—even to the business system itself—and even "Big Business" is in a vulnerable position, its security depending upon intangibles such as government bureaucracies, public opinion, big labor unions, or the foreign situation.

The businessman himself, however, is not so greatly altered as he might at first seem. He has passed through a series of evolving portraits in literature with a variety of disguises: a great American success, a shifty or cunning peddler, a confidence man, a representative American, a strong amoral titan of finance. He has been depicted as George Babbitt and as his opposite number. He has become a monster of the schools with a Marxian head, a Freudian body, Laskian arms and legs, and a Veblenian or Weberian appetite for lovely proletarian virgins in annual sacrificial rites.

Yet there are certain constants to the portrait, too. He has been steadily shown as the representative American type, shrewd and eager to get ahead, lacking in cultural and aesthetic appreciation, but equipped with wit, humor, and practical wisdom. From Franklin to Joe Logan he has consistently stood for the principle that business is not solely or even primarily concerned to make money, but rather that it is a "game" played for high stakes in which his satisfaction comes from measuring his own wit and skill against others, or against "society." And, throughout Ameri-

can literature, the novelist has been fairly consistent in standing for the individual in his struggle for recognition—at first against himself, then against society, and finally against the business organization itself.

Even when the businessman overlooked the accepted laws of society the novelist has been hesitant to condemn him. He was most severely censored in the 'twenties and 'thirties, first from the standards of Greenwich Village and then from an idealized Marxian socialism. In the proletarian novel alone, did the writer refuse all sympathy with the businessman as such, making him into a symbol instead of a human being. If one were to attempt to explain to a Rip van Winkle, hopelessly trying to see

some resemblance between the portraits of Poor Richard and Tom Rath or Charley Gray, he might tell him that each was striving against some form of social indifference and that Franklin's individual enterprise is not so different from the efforts of the modern organization man to realize his own potential in a stifling atmosphere in which everything is done in groups. One need not send for a Rosicrucian pamphlet on "The Mastery of Life" to see that Franklin's secret power lay in his ability to direct the group rather than be directed by it. The man in the gray flannel suit has found this task almost too formidable to overcome, but the drama of his story is that, like Franklin, he is still in there hoping to find a way.

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RICHARD EELLS

The Corporate Image in Public Relations

The broad concept of public relations advanced in this article may well lead to the junking of many current practices in public relations.

Despite huge dollar outlays for corporate public relations, many public-relations programs designed to serve long-range corporate goals fall far short of the mark. Usually the basic reason is that corporate managers tend to think of public relations as a peripheral matter—rather than a major function of management. They do this because they fail to understand that the way in which a corporation relates itself to society is vital to its existence.

The recognition of public relations as a major *function* of management, along with such well-established functions as engineering, manufacturing, marketing, and finance, is fairly recent. As a unique kind of work, public relations has become specialized both as to personnel and as to major staff and operating units. In the past, unlike specialists in other functions, public-relations specialists often have had no exclusive claim on the kind of work they performed. Today their responsibilities cover specific areas which have begun to be defined by a special literature and special skill and techniques.¹

¹ Eventually, a theory of public relations will emerge as a corollary of a general theorem of communication as a social phenomenon. An ingenious treatment of

BROAD CONCEPT OF PUBLIC RELATIONS

The purpose of this article is to examine certain problems which the public-relations function poses for management and to suggest approaches to their resolution. Basic to this discussion is a broad concept of public relations. From the viewpoint of the board and executive management, who must conduct the corporation's affairs as more than just a profitable business operation, a broad concept of public relationships is indispensable. The institutional character of the concern, its long-range goals, its essential role in the society that nourishes it, its contributions to many different groups which, in turn, contribute to its welfare—all these are compelling reasons for thoughtful inquiry into the public-relations function of the twentieth-century American corporation.

By public relations I mean the communication of the corporate image to key groups, both inside and outside the corporation, for two purposes: (1) to relate the corporation to its social environs, and (2) to serve the corporate objectives. This is much more than publicity

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through the press, radio, and television, although this is certainly a valid, if limited purpose in itself. This broad definition of public relations has many implications, of course; but two in particular have special significance for the subsequent discussion.

The first is that in order to "relate the corporation to its social environs," public-relations work must be reciprocal. A company should listen as much as it talks—perhaps more so. When the company limits itself to *sending* messages, it is engaging in but one phase of the communication process.² For communication

communication is by Norbert Wiener, *The Human Use of Human Beings* (Boston: Houghton Mifflin Co., 1954), in his theory of messages; though without specific application in any detail to corporate structures it is highly suggestive for corporate theory. Compare A. J. Ayer, "What Is Communication?" in Ayer, Haldane, et al., *Studies in Communication* (London: Martin Secker & Warburg, 1955), pp. 11-28, where communication is referred to as "the transference of information" and "all deliberate uses of language by human beings as well as by voluntary or involuntary exclamations, movements, gestures, singing, crying, laughing, dancing, insofar as they are informative." But J. B. S. Haldane, "Communication in Biology," in the same volume, declares that "a great deal of communication is still at the animal level" and that "its function is to evoke certain actions in the recipients by altering their mood, and not to communicate information." Sir Geoffrey Vickers, writing on "Communication in Economic Systems" in this volume, says that "in the literature of business management 'Communications' has virtually ceased to imply the exchange of information as such"; it "has become a term of art to include every form of human contact which may help to get cooperation within the organization and a good Press outside"; to him it has other important purposes, including the formation of collective decisions, rendering them acceptable and moving people to action.

² See James G. Miller, "Toward a General Theory for the Behavioral Sciences," in L. D. White (ed.), *The State of the Social Sciences* (Chicago: University of Chicago Press, 1956), pp. 29-65, on the "diffusion function" and "information transfer"; Colin Cherry, "'Communication Theory'—and Human Behavior," in Ayer, Haldane, et al., note (1) above; B. L. Smith, H. D. Lasswell and R. D. Casey, *Propaganda, Communication and Public Opinion: A Comprehensive Reference Guide* (Princeton: Princeton Univ. Press, 1946), with four essays on the science of mass communication; and Warren Weaver, "Recent Contributions to the Mathematical Theory of Communication," in C. E. Shannon and W. Weaver, *The Mathematical Theory of Communication* (Urbana, Illinois: University of Illinois Press, 1949).

means also that messages are received and responded to, and that the responses get back to the original sender, who adjusts further messages in light of these responses. Moreover, this listening needs to be continuous and systematic since both the audience responses and the media are constantly changing as a result of social and technological dynamics.

Even though a company can demonstrate a near-total recall of its messages through opinion surveys, it may not be getting its true message across. Moreover, aside from the practical necessity of knowing how its specific messages have been received, the corporation's image of itself as a social institution depends in large part upon two-way communication, as will be shown later in this paper. For the time being, however, suffice it to say that it is an egregious error on the part of management to assume that it is "adequate" communication to achieve the apparent conversion of the listener.

The second implication is that a company's public-relations program must do more than relate the organization to its social environs; it must serve the corporate objectives. In order to do this, management must define the corporation's own broad economic and political goals as concretely as possible. Thus, a broad concept of public relations must unfold in a two-step process:

1. Identifying the *real* corporate goals in their order of priority; and
2. Translating these goals into effective policies and programs that will communicate and relate the corporation to the Greater Society in terms of these goals.

Without these two steps, taken sequentially, public-relations work will inevitably continue to be either haphazard, or in accordance with preconceived personal notions of corporate public-relations managers, or of external public-relations agencies.

There are many possible ways of stating a

company's objectives.³ When well done, the objectives will take into account all the major groups of people—or "publics"—with which a company carries on relations, and the major purposes of its relationships with those publics.

Public-relations and executive managers should keep in mind, however, that the published objectives of a company will never reflect all of the goals and values of the corporation as an institution nor of its management as human beings. For example, the goals of influence and strength are never explicitly mentioned objectives. These, however, are objectives of every going concern as basic as are wealth, well-being, skill, enlightenment, respect, rectitude, and affection. (This list of goals, incidentally, is representative of the goals that men hold universally, though of course with considerable variation in priority from person to person, place to place, and from one point of time to another.)

For every business organization, then, a key purpose should be to translate corporate goals into realistic public-relations policies that successfully project the desired corporate image to all the company's publics.

DEFINING THE CORPORATE IMAGE

One major problem in projecting a favorable and consistent corporate image is the difficulty corporate managers themselves have in perceiving the corporation in terms of twentieth-century social beliefs, expectations, and promises. Thus the image they themselves have and the image they project is anything but clear and meaningful. Frequently the managers' inability to see themselves and their company as people on the outside see them, compounds the difficulty.

Each manager sees his corporation in terms of his own "operational code," which includes his system of values (i.e., what he wants, what

he believes is good, and what he wants to achieve). More importantly for his view of the corporation, his code includes how he sees the world in which his company operates. Unfortunately, as Herbert Simon points out, "The limit of human understanding of complex social structures leads human beings to construct simplified maps (i.e., theories or models) of the social system in which they are acting, and to behave as though the maps were the reality."⁴

The complex social structure, of which one's company is a part, cannot be seen or felt directly in all of its implications; the manager must rely upon inherited maps, models, and theories. From these, the manager forms his own image of the corporation as a social institution. Some of the maps, and thus the corporate image in the managerial mind, are exceedingly realistic and usable for short excursions into the immediate corporate environment and for specific functional tasks, such as marketing a product or recruiting equity capital. For the wider-ranging journeys which public relations entails, the maps may be disastrously misleading. Long-term planning for the company and assessment of the social, political, and economic trends of the human environment require models different from those managers are likely to have at their disposal.

For example, the notion that the "proper" relationship between the corporation and its socio-political environment is one of laissez-faire, as defined in classical economics, has long persisted. Such models have permeated the literature which businessmen were taught to respect in their college courses. Today, these models are probably more widely accepted among corporate executives than the more recent and more realistic models proposed by contemporary economic theorists who deal with changed conditions, both in public and in business administration.

³ See Stewart Thompson, *Management Creeds and Philosophies* (New York: American Management Association, 1958).

⁴ Herbert A. Simon, "Comments on the Theory of Organizations," *American Political Science Review*, Vol. 46, No. 4, December, 1952, p. 1135.

Many policy-makers have inherited and try to apply time-bound concepts not only of the nation-state and of public government, but also of private enterprise itself. This makes for unrealistic and often inconsistent perception of the corporation on management's part; and, since the policies of management affect the public's image of the corporation, it is not surprising to find that the corporate image held by the corporation's key publics may also be confused. Their image of business is confused because it mirrors inconsistencies in the minds and behavior of the men who manage the business enterprise.

For example, the attitude "no other world but our company" may lead to *company policies* opposed to *national policies* of tariff abatement, even though such national policies may make for firmer alliances with countries oriented toward the West and nations still uncommitted in the world struggle. In the same vein of internal inconsistencies, there are those who claim that the sole and exclusive purpose of the corporation is economic, so that management is apparently obliged to maximize profits to the exclusion of all other considerations. Some managers, however, who take this position with great zeal will exhibit equal zeal in undertaking defense contracts that yield little or no profit to the company on the ground that such is the duty of a good corporate citizen. These apparent inconsistencies can be resolved, but not without a philosophy of business on which to formulate a realistic theory of public relations.

This emphasis on the necessity for management to be aware of its social role and of the publics' view of that role should not be construed to mean that all companies are duty-bound to identify with larger spheres of interest—community-wide, national, or international. On the contrary, in a system such as ours, in which diversity is regarded as a necessary condition of a free society, a business corporation, no matter how large, cannot per-

mit its image to become frayed at the edges and fused with the image of society as a whole.

The business corporation must maintain a distinct individuality, a high degree of integrity, and great flexibility in order to withstand the constant pressures on its growth which, if unrelieved, so frequently and so easily lead to state intervention and finally, state control. Accurate knowledge and realism in evaluating the goals, aspirations, needs, and activities of others outside the corporate "island" are consistent with a forthright stand in favor of corporate self-interest and indeed are essential to management's realistic perception of the corporate image. Diffuse and equivocal policy-making arises in part from lack of such knowledge.

If management is to project an image that is unique, timely, internally consistent, and meaningful to the publics at which it is directed, it must itself have such an image.

In short, management's own image of the corporation must rest ultimately on an accurate and penetrating analysis of the corporate environment. Thus the two-way communication mentioned earlier is important not only for testing the effectiveness of specific public-relations programs, but also for formulating the basic corporate image which guides policy.

PUBLICS SHAPE THE CORPORATE ENVIRONMENT

The large corporation has many publics with which communication must be maintained. To identify these publics and determine their characteristics is important to management for two reasons: (1) the publics shape the corporation's attitudes and dynamics which should affect management's own image of the corporation; and (2) in order to project this image effectively, once management has defined it, corporations must know the predilections of the groups with which they maintain relations. Selecting the publics is an important element of public-relations policy. Too narrow a view

of corporate interests in the complex environment may impair the effectiveness of public-relations programs by unduly limiting the publics. Yet, some lines must be drawn. Occasionally there may be a tendency to exclude certain publics for budgetary reasons with the plausible argument that those excluded are too remote from the affairs of business. Or there may be confusion as to the meaningful categories of publics for public relations as distinguished from other kinds of functional work within the organization as a whole.

There are three possible approaches which management can take in trying to pinpoint its publics. The *first* would be to identify and separate internal and external publics or groups. The *second* would be to identify the publics or groups by the roles individuals play in their life situations. The *third* would be to identify the publics or groups by their direct or indirect contributions to the corporation and their claims upon it.

If we classify publics by the first method (internal and external groups), certain difficulties arise. In our classification scheme we would include such typical groups as employees, unions, management, customers, share owners, suppliers, competitors, distributors, dealers, and so on—groupings that obviously bear directly on the nature of the enterprise. Obviously, the membership of some of these groups overlap. For example, employees are members of the internal company "team," but they are also members of an external organization that bargains collectively with management. As the latter, they may sometimes be identified in the minds of some managers with an adversary interest, but, as employees, elaborate efforts are made to identify them with "the company." Does their union constitute a public for the purpose of public-relations work? And how is this kind of work to be integrated with "union relations"?

Special problems with wide social implications and with very immediate implications

for public-relations programs arise when employees are regarded as a part of the formal organization of the company. It has been argued that the company's demands upon them, as a part of the formal organization, may be quite out of line with their needs as well-integrated and healthy persons, as individuals.⁵ The formal organization itself, as well as directive leadership by management (as distinguished from "democratic leadership"), tight management controls, and "human-relations" programs are said to be devices that managers use to heighten the employees' feeling that they are part of the "team" in order to increase their productivity.

In its relations with unions, on the other hand, management hardly seeks identity of interests, at least not in the same sense. It will seek a common ground for determining policies as to wage structures, working conditions, benefits, and the like; but it will resist attempts on the part of a union to encroach upon "management prerogatives" and thus to identify itself with the company as an institution.

To some extent, the second approach (identifying publics by listing roles that people play), is an improvement on simply separating internal and external publics. An inventory of publics by this method would include people in their roles as: members of the national community; citizens, voters, and constituents; customers, share owners, employees, and suppliers; members of the press; members of educational groups; leaders and members of religious groups; members of governmental agencies; members of industry and trade organizations; members of service organizations; members of professional and scientific societies; members of fraternal, cultural, and ethnic associations.

This listing makes the assumption that a company may have a relationship with the same individual in various ways, through the various roles he plays in his life situations.

⁵ See Chris Argyris, *Personality and Organization* (New York: Harper, 1957), p. 233.

Every person plays many roles and each of these roles carries with it definite attitudes, beliefs, customs, codes, manners, aspirations. In order to communicate successfully with its publics by reaching people in their various roles, a company must acquire a working knowledge of the characteristics of these roles. To be able "to listen" to people, as well as "to speak" to them through media, a corporation must direct its antennae in a number of directions. Role listing provides a clue to these directions.

The third approach identifies the publics in terms of their contributions to and claims on the enterprise. Many directly or indirectly contribute their effort, time and substance to the establishment and growth of the corporation. For this reason, many lay claim to the fruits of its productivity.

Four general categories of *direct* contributor-claimants can be identified, and these are almost universally recognized as such in current thought about the modern business corporation. They consist of the corporation's security holders, its customers, its employees, and its suppliers. Each of these groups expects the corporation to meet specific kinds of responsibilities and each, in turn, owes specific duties.

Four *indirect* claimant groups can be identified: competitors in the business community; local communities; the general public; and governments (local, state, and federal).

This third approach to defining publics has great merit because it is the only one which permits management to identify and evaluate specific contributions and claims made by the various groups. By such identification and evaluation, management can sharpen its perception of its responsibilities to these various publics. Once corporate social responsibility has been established, it becomes integral to the goals of the corporation, thus taking on more tangible meaning for those who must portray the corporate image in terms of corporate goals.

In practice, an eclectic approach—taking the best from all three approaches to fit existing company organization—would probably be the most effective way for companies generally to identify their various publics and thus to modify and supplement the "social maps" which in such large measure affect management's own images of their companies.

COORDINATION OF "COMMUNICATING-ACTIVITIES"

Another important aspect of relating the corporation to its social environment is that relationships with key publics are maintained in countless ways other than through publicity releases from the public-relations department. Thus, if the corporate image in the public eye is not to be confused and contradictory all those activities which establish relationships with any group must be coordinated. So extensive and complex are the relationships of a corporation with publics that a more nearly accurate term (if we exclude relationships with groups of people within the corporation) would be "external relations"—one variation of the term that nation-states use to distinguish problems of foreign policy from those of domestic policy. Why would it not be wise for the large corporation to have a "Department of External Affairs" which would be responsible for all activities establishing relationships with the outside?

The idea is tempting. But it overlooks the hard fact that external relations are infinitely varied, complex, and comprehensive. They involve marketing, supply, legal relations, financial relations, and a host of others. To merge all of these functional kinds of external relations into a single organizational unit is manifestly impossible. Nation-states are not able to do it, as witness the corps of attachés in foreign embassies—each of the attachés being responsible not to the foreign office but to some other department of the home government. One might add that, in this age of pressure toward

people-to-people contacts across international frontiers, the attempt by governments to funnel all such contacts through state departments and foreign offices becomes increasingly impracticable.

Foreign policy, the cynics say, is the art of influencing other nations to your own nation's ends. Corporation public-relations policy, by analogy, could be said to be the art of influencing external groups of interests to corporate ends.

Neither the policies of states nor those of corporations may be so cynical as all this, but the instruments of policy remain the same and they do exhibit striking similarities. The instruments of foreign policy include arms, economic measures, diplomacy (negotiation and agreement), and communication through mass media and other channels (government-to-people). The instruments of corporation policy—in its external relations with various groups in the environment—include legal measures, economic measures, negotiation and agreement, and communication through mass media and other channels (corporation-to-people). The application of all these instruments contributes to the corporate image held by the world outside.

To get an overview of the entire range of external relations of the corporation (on which there is practically no literature today) would require a systematic survey of all the ways in which particular companies use all these instruments. Such a survey would undoubtedly show that some companies make inadequate use of some of these instruments and that few indeed coordinate their application with singleness of purpose. This coordination is a top-management responsibility and can be called the "relations" function in its broadest sense.

But the question arises whether top management is properly equipped to undertake this coordination. Usually it is not, for top management often lacks the information necessary for it to adjust its own corporate image to the

needs and wants of its social environment and to see the cause-and-effect relationships between that environment and the instruments of policy. It is not sufficient to insist, as is often done, that the necessary staff exists, but is distributed among various departments and committees. It is undoubtedly true that every specialized department has its own antennae out to the pertinent environmental forces that affect its particular kind of work. What is often lacking, however, is a synthesis. Even in the larger corporation there is no systematic effort made to synthesize public-relations "intelligence" with all corporate activities. Such a synthesis would present a unified picture to executive management of the *changing role of the company as seen from the outside*. After the synthesis, the next step would be a follow-up to determine whether the appropriate policy decisions had been made throughout the company. Instead, there is usually a mass of unrelated reports on external relations of all sorts that are circulated to many desks at various times. The mass of reports is never processed as a whole or acted upon as a whole, nor indeed is it ever intended to be acted upon as a whole.

This problem is not peculiar to the corporation. The intelligence operations of governments also appear to fail notoriously in the critical act of integrating the necessary information needed by policy-makers at top-executive and legislative levels. Continuous failure to solve this problem for any nation could mean a national disaster. Failure to solve it in the corporation could have a direct bearing upon its survival as an institution.

Where, then, do the public-relations specialists fit into this broad concept of public relations? Public-relations specialists should properly be the specialists on communication as a potent instrument in all aspects of corporate policy, and not just specialists in the use of mass media. As specialists, their task should be both to counsel executive management in the work of coordinating all the relationships

which the corporation has with various publics and to advise company specialists (in marketing, finance, legal work, manufacturing, etc.) on adjusting to the corporate environment in the interest of advancing such types of work.

In order to accomplish these tasks, public-relations specialists should be knowledgeable in:

- The identity and characteristics of all the key publics toward which company messages are to be directed and from which messages are to be received.
- The content and purpose of these messages, with special attention to the things that should be said and done in public view by persons and components acting on behalf of the company.
- The corporate image, not only as it appears in the minds of the key publics toward which company messages are directed and from which messages are received, but also as it operates upon the minds of company personnel in their decision making in all kinds of external relations.
- The most effective media or channels to be used for communicating with the key publics, not excluding the possible effect of unintended messages sent out from the company in the form of activities that are not usually considered to be public-relations work.
- The effects of outwardly directed messages upon these key publics, measured not only in terms of their verbal responses, their opinions and attitudes, but also their actions with respect to matters of concern to all decision makers in every kind of functional work throughout the company.⁹

⁹ The literature of this field is growing rapidly, as indicated in the bibliographical works: Bruce Lannes Smith, Harold D. Lasswell and Ralph D. Casey (eds.), *Propaganda, Communication and Public Opinion* (Princeton: Princeton University Press, 1946) and Bruce Lannes Smith and Chitra Smith, *International Communication and Political Opinion: A Guide to*

Since some decisions in public relations obviously deal with highly technical matters (e.g., choice of media, content analysis, etc.) there is always danger that public relations, for this reason, will be regarded as peripheral to the central issues of business policy. This is far from the truth. The choice of key publics, for instance, may profoundly affect the growth and even the survival of the corporation. To cite a single illustration: to exclude government officials from a list of key publics could be a vital error, especially in an age of mounting governmental regulation of business at every level of public government.

Because the "fit" of the corporation into the prevailing social norms depends upon managerial decisions in all functional fields and not just upon the activities of the public-relations department, a corollary function of public-relations departments, then, would be to keep a watchful eye upon relationships of the entire organization with the public. The specialists would alert the entire organization to public-sensed deviations from standards of performance set by general company objectives. Feedback of opinion polling may be highly useful in developing a new set of premises for future policy decisions in various functional areas. It may be used also, of course, for policy-making in public-relations work with respect to informational output, or "selling" the company.

Some may object that this is too comprehensive a function to require of the public-relations specialist. Perhaps this is asking too much because of the way public-relations work is sometimes organized and staffed, and, espe-

the Literature (Princeton: Princeton University Press, 1956). A concise diagrammatic statement of the elements in the communication process by W. Phillips Davison and Alexander L. George is available in "An Outline for the Study of International Political Communication," in Wilbur Schramm (ed.), *The Process and Effects of Mass Communication* (Urbana: University of Illinois Press, 1954), pp. 433-443, applying the general principles expounded by Schramm in his article on "How Communication Works" in the same volume, pp. 3-26.

cially, in view of the relatively subordinate role the public-relations specialist plays in the operations of many firms. But the answer is simple. The function is of vital importance to the large corporation. If one prefers to attach the public-relations label only to those who perform the more modest role of proclaiming the virtues of the company, then another name must be found for this broader function.

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To summarize briefly, then, in order to communicate a meaningful image of the corporation to its key publics, somewhere in the organization someone must perform the broad "intelligence" function of sensing the social climate in which the corporation operates. This

is necessary both to management's defining a realistic corporate image and to the effective communication of that image. The success of the projection of that image depends also on how well management is able to coordinate company activities that produce an image in the public eye as a by-product with the specific public-relations function which has as its major goal the projection of the corporate image.

Once executive management appreciates this broader view of public relations as an aspect of communication and as an instrument of corporate policy, many of the current public-relations practices and programs of corporations may well be headed for the junk-pile.

NOTICE:

Proceedings of the Conference of Marketing Teachers from the Far Western States held in Berkeley during September, 1958, are now available to interested persons. Copies may be obtained without charge from Professor Delbert J. Duncan, 322 Wheeler Hall, Berkeley 4, California.

THEODORE A. ANDERSEN
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Planning for Diversification Through Merger

Most managers feel pressures for product diversification. Here is a practical method for developing diversification policies.

The highly dynamic nature of the U. S. economy produces continuous changes in the number and kinds of products competing with each other in given markets. In this environment the successful growth of most manufacturing firms depends upon their ability to expand and realign their products and markets in response to challenges and opportunities presented by economic changes. Such firms must give almost continuous consideration to their own product diversification.

The major purpose of this article is to describe a method for developing specific guidelines for planning diversification through merger. This is in contrast to much of the past writing on diversification, which has dealt largely either with the effects of diversification and mergers on competition or how given firms solved their particular diversification problems.

In order to limit the analysis to manageable proportions, this paper will discuss diversification planning only by manufacturing firms. The term "diversification" in this article means

entry into new product lines involving design and production technologies and, usually, types of markets that are new to the diversifying company. This definition excludes diversification through market and/or product development activities already common among manufacturing firms. We are concerned solely with diversification through merger rather than through product development within the firm. Merger is often the preferred method of diversification because it provides quick entry and because it can supply what the diversifying firm may lack in the industry which it intends to enter.

THE DECISION TO DIVERSIFY

The essential motivations for diversification are (a) to obtain better use of resources and (b) to increase capability for adapting to a rapidly changing and increasingly competitive environment. Some circumstances in which the motivations for diversification are strong are cited below:

1. As Chart 1 indicates, demand for new

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products is highest after the initial period of experimentation and development. But after a time, the market, for durable products particularly, approaches saturation and the rate of growth depends on replacement demand. Firms dependent on the demand for such products then face a slow rate of growth unless new product alternatives are developed. The growth curve shown in Chart 1 is typical for many industries.

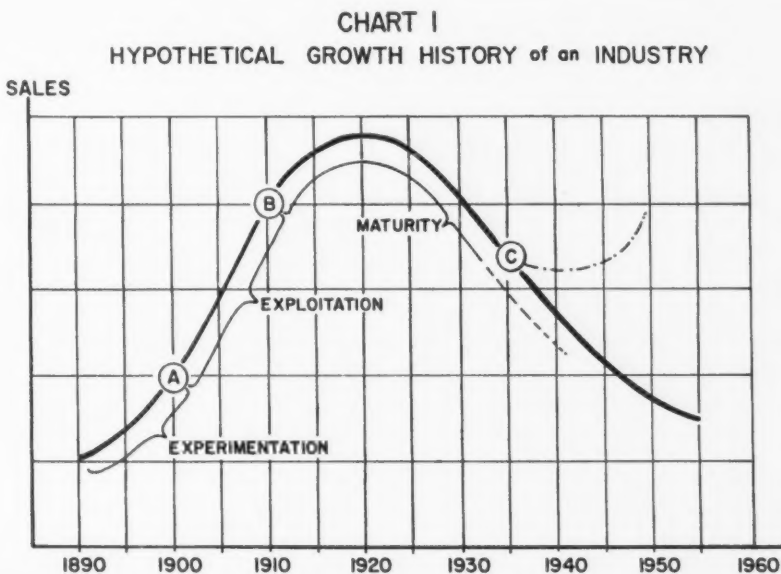
2. The growth curve shown in Chart 1 is also influenced by the fact that many product lines face considerable competition from substitutes. American business is spending some \$9 billion annually on research and development, much of which leads to new and improved products. These heavy research and development expenditures are likely to continue and result in major technological break throughs which may obsolete entire industries. A large proportion of present-day products may, therefore, soon become obsolete. Similarly, the development of substitute products may result in a slackening of the growth curve.

In the past the rate of product innovation has tended to accelerate and, with a rising proportion of economic resources being devoted to innovation, this history should repeat

itself. Each manufacturing firm has to recognize both present and potential competition from products which may serve as substitutes for its own, substitutes which may be based on entirely new technologies. Competition of this kind cannot often be met merely through further product development; entirely new market opportunities may have to be sought through diversification into entirely different technological areas.

3. Relatively great instability of demand can prevent many firms from using their resources efficiently. Firms manufacturing durable capital goods, which fluctuate widely in demand, may suffer from this, as may firms producing for one customer who varies his purchases among several or more possible suppliers, as in the defense industry. In either case, diversification would reduce the instability of revenue.

4. Another way in which diversification can lead to better use of resources is through greater and more stable utilization of staff personnel. In many cases the firm can take on new product lines without significantly increasing the size either of the corporate management staff or such groups of specialists as the finance staff, marketing analysts, engineering and research staff, and industrial relations staff.



When these administrative groups account for a significant proportion of total cost, appreciable economies may be possible if these groups help manage a number of product lines rather than only one. In this set-up, when the market for one product line declines, these staff groups can devote more of their resources to the stronger lines.

• • •

In securing better use of resources, a firm may assume either a defensive or an aggressive posture. The defensive posture consists of deferring diversification until sales growth begins to level off and decline and/or other industries move in on the firm's present markets. In contrast, a firm taking an aggressive posture anticipates either the coming weakness in sales or the technological obsolescence of products and diversifies accordingly. An aggressive stance may include also initiating a search for more stable markets and increased utilization of staff personnel before the firm's competitive position becomes weak.

A firm with an aggressive policy continuously seeks to heighten its adaptability to a changing environment by broadening its technological base into technologies which promise

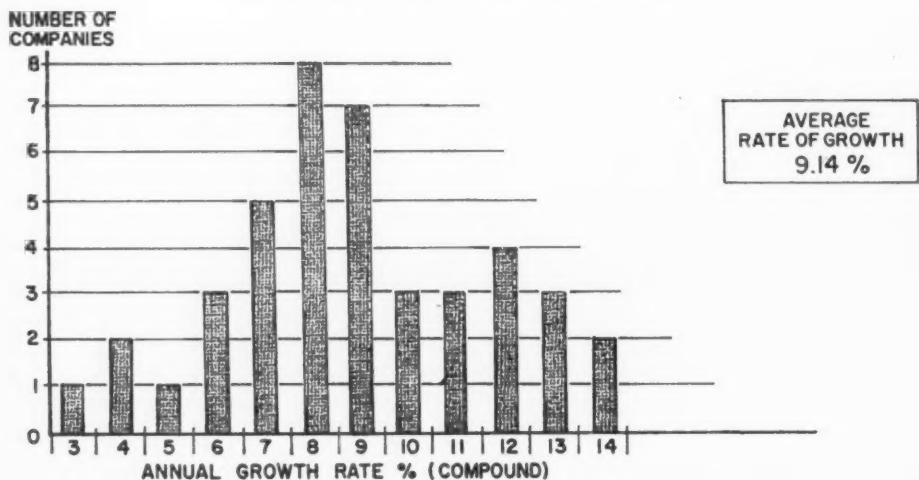
relatively rapid and important breakthroughs into new products and processes. It may also try to broaden its marketing competence to permit entry into markets and through channels quite dissimilar to those with which the firm is already experienced. It may seek all this diversification even when the future of its traditional product line may look good.

Studies of the growth rate of diversified industrial firms show a correlation between substantial diversification and better than average sales growth. Chart 2 shows that for the 38 largest U. S. industrial firms, the annual growth rate of sales was 9.1 per cent during the 1928-56 period. The rate of sales growth for all industrial firms in this period was between 5 per cent and 6 per cent. Further analysis of the 38 firms showed that almost all were diversified into 6 or more industries.

Chart 3 shows that of the 1,000 largest manufacturing companies, the 15 biggest firms were heavily diversified, the middle 100 firms (in terms of size) were for the most part moderately diversified and the 500 smallest firms showed little diversification.

Diversification typically leads to basic changes in the nature of a firm's management

CHART 2
GROWTH RATES OF 38 LARGEST
U.S. INDUSTRIAL COMPANIES (1928-56)



problems. The firm may move into product areas where the research, design, and production technologies may be quite new, and where the marketing, financial, and economic problems involved may differ significantly. Diversification, therefore, often brings on substantial extra costs and financial risks; and for that reason, it should not be undertaken unless the firm has carefully analyzed the motives for diversification and proceeds only after it has carefully reviewed diversification opportunities.

Diversification is no substitute for exploiting opportunities in present product areas; it is, rather, both supplementary and complementary. Nevertheless, each firm should study continuously the prospective demand for its present resources. Diversification may be viewed as a condition the firm is always seeking to improve, even when present prospects are favorable.

SCREENING PROSPECTS

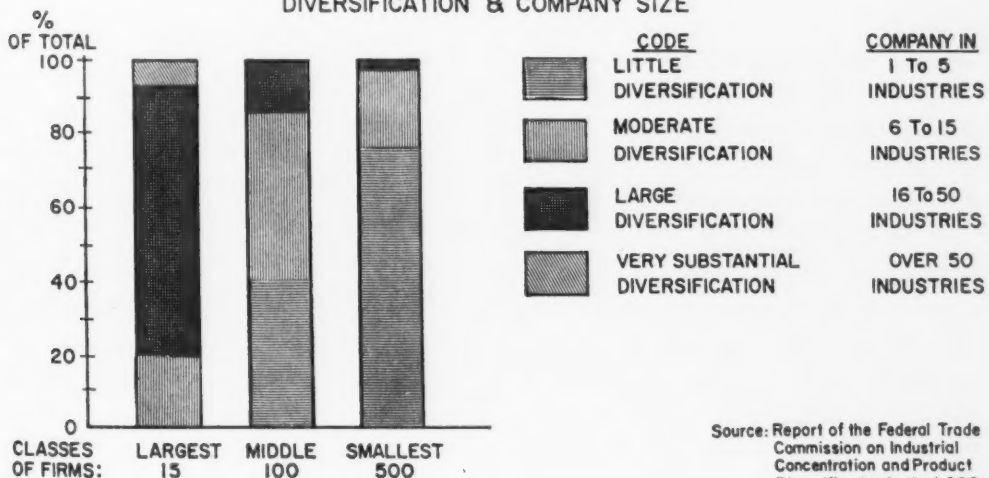
Firms seeking diversification are confronted by the fact that there are some four million firms in the U. S. to be screened, if one is not to overlook any suitable merger prospects. The screening process should give full recogni-

tion to the motives for diversification indicated above. The remainder of this report will describe how screening procedures might be developed and applied.

To locate the best prospects for diversification, a company should take the following steps:

1. Define the objectives of the merger to reflect full consideration of (a) how a more efficient utilization of resources is to be accomplished and (b) how greater adaptability to a changing environment may be achieved.
2. Determine whether a merger prospect whose operations can be integrated with those of the diversifying firm is sought or whether a holding company type of operation is the goal.
3. Review the diversifying firm's strengths and weaknesses to define its contribution to and benefit from the merger.
4. Develop criteria for determining which industries or areas of the economy contain the most advantageous merger prospects.
5. Apply criteria and develop over-all evaluations of the relative attractiveness of the industries under consideration.

CHART 3
DIVERSIFICATION & COMPANY SIZE



Source: Report of the Federal Trade Commission on Industrial Concentration and Product Diversification in the 1,000 Largest Manufacturing Companies

6. Estimate amount of financial resources available for diversification.
7. Develop strategies for choosing among the industries which achieved relatively high ratings on the selected criteria.

OBJECTIVES AND PHILOSOPHY OF DIVERSIFICATION

As indicated above, a first step in the search for merger prospects is to spell out as specifically as possible what is supposed to be achieved through merger. In the preceding discussion it was mentioned that the general goals of diversification were the better use of present resources and greater adaptability to a changing economic environment. Below are a few examples of how these general goals can be accomplished by meeting certain more specific objectives:

(1) A firm which finds that it is facing poor growth prospects should put emphasis on entering a fast growth area, (2) a firm with highly unstable sales might seek to merge with one having more stable revenue, and (3) a firm with a narrow technological base might merge with a firm that has research and development competence in one or more different technologies that have relatively great promise. (4) A firm with very limited marketing organization, experience, and competence should aim for merger with a firm particularly strong in these respects.

From the foregoing, it can be seen that the selection of specific diversification objectives depends upon first examining the firm's present market prospects and the degree of its capability for adapting to a changing environment.

If the diversifying firm has a strong motive for making better use of its present resources, it will be more interested in acquiring a firm that has similar managerial and resource requirements. In addition, if the management of the diversifying firm prefers some integration of engineering, research and product development, manufacturing, sales, and finance opera-

tions, then it will limit its consideration to merger prospects having relatively similar management problems. It may also be hoped that as a result of such a merger some product development may be accomplished that neither firm could have achieved by itself.

The remainder of this article will be devoted to considering diversification through merger only in those cases where mutual assistance in the performance of management functions is expected to result. (This approach necessitates a more extensive analysis of merger prospects than a "holding-company" kind of merger would require.)

COMPANY CAPABILITIES AND LIMITATIONS

In developing a diversification program which provides for the greatest mutual exchange of management and technological assistance, a company must of course identify its own particular capabilities and limitations. Some examples of management areas where capabilities need to be assessed are listed below:

1. Research and design capabilities in given technologies.
2. Ability to produce highly complex products which may undergo almost continuous changes in design.
3. Capability to achieve very low cost production by low tolerances, long production runs, and product simplicity.
4. Ability to market where there are many customers, numerous levels of distribution (e.g., manufacturer, broker, wholesaler, retailer), and much competition from substitute products.
5. Ability to raise funds through sale of securities at low cost.
6. Ability to develop and apply very close cost and financial controls.

Obvious merger advantages are likely to result if each firm can make significant contribu-

tions to the other because of one firm's particular skills, experience, and market contacts, and the other's limitations in any of these areas. Mergers that balance strengths against weaknesses and permit some integration of the technological competence of each firm are more likely to succeed.

SELECTING INDUSTRIES WITH BEST MERGER PROSPECTS

Once the objectives and strengths and weaknesses have been defined, a good point of departure for uncovering the better merger prospects is to determine which areas of the economy have the most attractive characteristics for the firm seeking diversification. It is of course much simpler to study the differing characteristics of the major areas and industries in the U. S. economy than those of each of the roughly 4 million individual firms. After one area or several industries have been selected as the more attractive, the firms within these groups can be considered specifically.

We have isolated the factors listed and discussed below as the most significant indicators of the comparative attractiveness of various industries for diversification. From these factors, each firm can develop its own criteria and

weight them according to its own objectives and strengths and weaknesses.

GENERAL ECONOMIC ENVIRONMENT

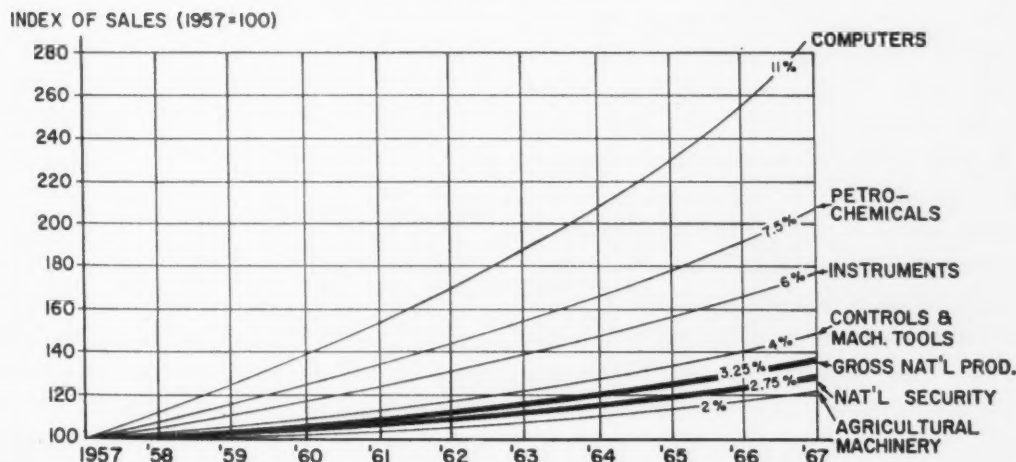
A. Expected growth rate of industry sales. This factor is of great importance and hence is worthy of very careful analysis. It is evaluated in terms of the probable average annual rate of growth of sales over the next ten years. Chart 4 shows the variance among the expected growth rates of selected areas of the economy.

B. Expected growth rate of industry profits. Another obviously important indicator of the desirability of an industry for diversification, this too is measured in terms of the probable average annual rate of profit growth over the next ten years.

C. Price stability. Industries in which there are periodic and serious price wars are, for that reason, relatively less attractive for diversification.

D. Tendency toward excess productive capacity. Because continuous substantial excess capacity normally leads to lower profit margins, an industry tendency to expand capacity faster than markets should be considered a negative factor for diversification.

CHART 4
SALES GROWTH TRENDS FOR SELECTED INDUSTRIES



E. *Ease of entry by new firms into the industry.* If there are few serious barriers to entry into the industry, such as high financial requirements or advanced research, production, or marketing competence, then the industry is vulnerable to many new entries, excessive price competition, and the development of excess productive capacity.

SALES STABILITY

A. *Stability of sales over the business cycle.* If industry sales tend to drop much more sharply than Gross National Product during general business decline, then the industry is that much less desirable for diversification.

B. *Dependence on single customer.* Industries that sell primarily to the Department of Defense, for example, may be subject to substantial fluctuations in sales because of the uncertainty of international tensions and domestic politics, as well as because of the rapid obsolescence rate of many military products. (Of course, firms with no military business may want to develop some production and marketing capabilities for military goods.)

BREADTH OF COMBINED PRODUCT MARKET BASE

A. *Entry into fertile technological areas.* Does the industry promise rapid technological advances that will lead to significantly new and improved products or processes? In general, industries based on complex technologies and devoting relatively large amounts of capital to product research are most likely to have fertile technologies.

B. *Achievement of substantially broadened marketing competence.* Will entry into the industry result in a substantial broadening of the firm's marketing capabilities? Does the industry use marketing channels and methods which are new to the diversifying company? Does the industry have customers who might represent important marketing opportunities in the future?

OPERATIONAL COMPATIBILITY

A. *Related technology.* Although a broadening of technological base may be sought through diversification it is not desirable to move into entirely foreign technological areas. Thus an airframe manufacturer would be more interested in an entry into electronics than chemicals because he has had more experience with electronics than chemistry. Each, however, could contribute to the broadening of the airframe company's technological base.

B. *Related marketing skills.* Similar to A above; an automotive parts manufacturer, other things being equal, would be more attracted to the machinery industry than to the soap industry, because the marketing problems of a machinery producer would be more like those he's used to than would be those of a soap firm. This greater similarity would permit relatively efficient control by the automotive producer over the marketing policies and would at the same time broaden his marketing competence.

INCREASE IN ACQUIRED COMPANY'S PRODUCT MARKET STRENGTH

A. *Technological contribution by diversifying firm to acquired firm.* Prospects for a successful merger can be enhanced if the technological competence of the diversifying firm is likely to prove helpful to the acquired firm.

B. *Potential usefulness of the diversifying firm's marketing competence to the acquired firm.* It is desirable that the marketing capabilities of the diversifying firm have potential value for the acquired firm.

POTENTIAL FOR JOINT PRODUCT DEVELOPMENT

If there are excellent prospects for a specific product development that probably could be achieved only through entry into the industry, and through the combined skills of the two firms, then the industry should be favorably

regarded. This is sometimes referred to as the "synergistic" or "one-equals-three" effect.

AVAILABILITY OF GOOD PROSPECTS

An examination of the size of the firms in the industry may reveal that almost all are either too large or too small to be of interest to the diversifying firm. If so, the industry is correspondingly less attractive in which to seek diversification.

APPLYING CRITERIA

Each of the foregoing factors, which determine the attractiveness of various industries, suggests a criterion for a relatively precise comparison of industries. The weight given to each of these factors would not be the same for all firms; rather, each firm would, according to its own motives, develop its own tests to be met, and determine its own priority of considerations. The intent here is to illustrate a method for evaluating major areas of the econ-

omy or industry by isolating characteristics which may be important to the firm seeking merger. Although such evaluations may be of necessarily limited accuracy and should be viewed as such, nevertheless they help to make some broad conclusions about the relative attractiveness of different industries for prospective mergers.

Often there are some inherent contradictions among objectives, contradictions that are readily felt when the time comes for assigning relative weights or priority to criteria; these need to be recognized and somehow minimized. For example, the desire to broaden the technological base of the diversifying firm may conflict with the wish to look for possibilities of joint product development. In the final strategy for selecting areas for diversification these conflicting objectives need to be reconciled as much as possible.

The list of industries being examined in terms of these criteria should be based on a

TABLE 1
INDUSTRIES REPRESENTING POTENTIAL SOURCES OF MERGER PROSPECTS

Agricultural Machinery	Glass	Oil Drilling Equipment
Air Conditioning and Heat Pumps	Glass Chemistry	Opticals
Atomic Energy	Home Furnishings	Paint
Auto Parts	Industrial Fabrics and Fibers	Paper
Autos	Industrial Gases	Petro-Chemicals
Baking and Milling	Industrial Machine and Equipment	Plastics Fabrication
Banks	Industrial Solvents	Pleasure Boats
Building Materials	Insurance	Plywood
Buses	Investment Companies	Publishing
Candy and Soft Drinks	Leather and Shoes	Railroad Equipment
Ceramics	Liquor	Retail Trade
Chemicals	Lumber	Road Building Machines
Clocks and Watches	Machine Tools	Rubber Fabrication
Coal Mining	Materials Handling Equipment	Shipbuilding
Communication Equipment	Meat Packing	Soap
Components	Metallurgy	Specialty Steels
Computers	Metal Mining	Steel
Dairies	Metal Products	Sugar
Electric Equipment	Motion Pictures	Textiles and Apparel
Electronic Controls	Newspapers	Tile and Clay Products
Electronic Instruments	Office Machines	Tobacco
Elevators	Oils	Trucks and Trailers
Finance Companies		TV Transmission
Food Products		Utilities

classification which will permit the ready gathering of data on past growth rates, prospective market trends, stability of sales, etc. Table 1 presents such a list. It should be pointed out that more meaningful analysis is sometimes possible by subdividing industries in which there are segments having certain economic and technological characteristics that are either significantly different from the rest of the industry or of special relevance to the objectives of the diversifying firm. For example, on the list in Table 1 the oil industry was subdivided into petro-chemicals and all other products; glass was subdivided into ceramics, opticals, and all other glass products.

The firm seeking diversification may require that an industry meet certain minimum standards and eliminate all those which do not meet these standards before doing an extensive analysis. Such a procedure simplifies the task and saves much time. It is time saving, for example, to eliminate from consideration all industries which do not (a) have a prospective annual sales growth rate of at least 4 per cent and (b) engage in manufacturing activities which are based on a relatively complex technology with the promise of a high rate of innovation. In industries with the latter characteristic research and engineering expense is a relatively large percentage of total cost.

RATING INDUSTRIES

Once the final determination has been made as to which industries to study in detail and the studies made, then each should be rated numerically according to criteria established for each of the factors analyzed. A point scale ranging from one to ten is suggested for easy measurement of each criterion. Table 2 illustrates how each industry may be scored on the criterion of probable market growth.

Many of the criteria by which industries may be rated do not, of course, lend themselves so readily to quantitative measurement. For

TABLE 2
ASSIGNED RATINGS TO VARYING GROWTH RATE

Expected Average Annual Rate of Growth	Points to be Assigned
Over 15%	10
10-15%	9
8-10%	8
6-8%	7
4-6%	6
3-4%	5
2-3%	4
1-2%	3
0-1%	2
Decreasing	1

example, the similarity between the technology of the diversifying company and the industries under consideration cannot be measured quantitatively. Here the assigned ratings will be largely a result of the combined judgment of specialists rather than statistical analysis. The industries with technologies most similar to the diversifying company will receive point assignments of eight, nine, or ten while those with relatively less similar technologies will receive proportionately lower ratings.

When some criteria are more important to a given firm than others the criteria should be weighted differently by making the system of point assignment reflect relative importance.

Table 3 illustrates some ratings that a manufacturer of very complex mechanical type capital goods might assign to four selected industries. This table summarizes the basic criteria used and the nature of the assigned ratings.

Different systems of ratings are of course possible. Upon conclusion of the ratings all industries may be ranked according to their total points. Or industries may be ranked on the basis of each major group of criteria. There may, therefore, be several different rankings. The diversifying company may be most interested in those industries which may be at or near the top in total points but low on certain criteria. Thus, the analysts need to decide on a system for evaluating the scores registered by

each industry on each criterion and on groups of criteria, as well as total points.

During the evaluation it needs to be kept in mind that in the assignment of points under the various criteria only limited accuracy can probably be achieved. Therefore, where the differences in points assigned turn out to be small, the industries may be viewed as being in relatively similar positions.

STRATEGY OF SELECTION

The foregoing discussions have dealt with the broad potential advantages and varying motivations for diversification, some of the specifics of how merged companies may strengthen each other, what tests to apply to determine which firms represent the most advantageous merger prospects, and how to

TABLE 3
EVALUATIONS OF SELECTED INDUSTRIES

Criteria	Air Con- ditioning	Electronic Controls	Metallurgy	Plastics Fabrication
I. Expected Economic Environment				
A. Sales Growth.....	9	10	9	7
B. Profit Growth.....	5	7	6	5
C. Price Stability.....	5	7	7	6
D. Excess Productive Capacity.....	5	8	6	4
E. Ease of Entry by New Firms Into the Industry.....	6	8	7	4
SUB TOTAL.....	30	40	35	26
II. Stability of Sales				
A. Stability of Sales over the Business Cycle.....	4	5	4	7
B. Dependence on a Single Customer.....	9	7	7	7
SUB TOTAL.....	13	12	11	14
III. Breadth of Combined Product Market Base				
A. Entry Into Fertile Technological Areas.....	2	8	7	6
B. Achievement of Substantially Broadened Marketing Competence.....	5	8	6	6
SUB TOTAL.....	7	16	13	12
IV. Operational Compatibility				
A. Use of Related Technology.....	3	8	4	4
B. Use of Related Marketing Skills.....	3	6	6	4
SUB TOTAL.....	6	14	10	8
V. Potential Contribution of Diversifying Firm to Acquired Firm				
A. Technological contribution by diversifying firm to acquired firm.....	4	7	5	5
B. Potential usefulness of the diversifying firm's marketing competence to the acquired firm.....	2	4	2	2
SUB TOTAL.....	6	11	7	7
VI. Potential for Joint Product Development.....	7	9	6	6
VII. Availability of Good Prospects.....	5	5	5	6
GRAND TOTAL.....	74	107	87	79

evaluate the results of such tests. There remains to be considered the available strategies in making the final selection of one or more companies with which a merger may be sought.

No one merger prospect usually meets all tests better than all other firms. Instead, one prospect may be strongest on growth prospects but weaker than others on its contribution to broadening the technological base of the diversifying company. Consequently, final decision often involves a trading off of some desired characteristics in order to obtain more of still others.

The application of carefully developed criteria can be very helpful in revealing which areas and industries of the U. S. economy contain the best prospects for mergers for firms with given diversification objectives. One possible strategy is to select the industry with the highest over-all rating, namely the one that received the most total points when evaluated on each criterion, as the area in which to concentrate the search for merger prospects. This strategy, however, suffers from the possible limitation of being overly mechanistic.

A second strategy consists of taking the industries that achieved relatively high rankings on total points and considering more on a qualitative basis which will contribute most to the type of growth that the diversifying firm may seek. The diversifying firm may attempt to visualize the type of company it wishes to be five, ten, and twenty years from now. It then may consider entries into different high ranking industries to judge which will contribute most to achieving this corporate image of the future. In this process more emphasis may be placed on the growth potential of the various merger prospects and less on the immediate compatibility of the operations of the diversifying firm and the firms being considered for acquisition.

So far much attention has been paid to analyzing industry growth potentials, the possible rates of advance in various technologies, the

promising areas of research, and institutional characteristics of various industries to determine which areas contain the best merger prospects. It remains to select from within promising industries one or more specific companies with which a merger will be sought. Here the elements of desire to merge, price, and size of merger prospects will have to be studied and many otherwise eligible firms will be dropped from consideration. Some firms may be relatively costly to purchase in terms of initial price; if their prospective profits show a strong enough upward trend, however, the diversifying firm may quickly recapture its investment in the merger. Thus, estimates need to be made of how quickly the investment will be recovered.

Each diversifying firm will, of course, have to estimate how large an investment it wishes to make in its diversification program. Because of the possibility of acquiring firms through exchanges of common stock some mergers can be accomplished without a cash investment; this can influence the size of the firm with which a merger may be sought. The financial strategy to be employed during merger attempts, however, represents a major analytical study and is outside the scope of this paper.

SUMMARY

It seems likely that during the 1960's at least \$120 billion will be spent by U. S. business firms on research and development. This compares with about \$50 billion during the 1950's and about \$3 billion during the 1940's. One implication of this is that present product lines and even entire industries may have a relatively short life. Since there is much uncertainty about what the new products of the future will be that can obtain strong market positions many manufacturing firms will seek to diversify their product lines in order (a) to reduce the risk of having to operate with an obsolete single product line and (b) to be able to exploit marketing advantages offered by new

product developments. These efforts may have to be continuous and vigorous so that in effect the search for diversification becomes a way of life for the firm.

This study has attempted to show how the search for merger prospects can be systematized by (a) making careful analysis of the motivation for diversification and (b) developing from diversification objectives the criteria to be applied to the various areas of the U. S. economy which might contain merger

prospects. The opportunities for diversification ultimately located by the firm may not exactly coincide with the firm's idealized objectives. The final selection of a firm with which to merge will be based on both quantitative and qualitative analysis and will represent a compromise among the various goals being sought. In this fashion the best merger prospects can be located to help the diversifying firm progress toward its idealized corporate image of the future.

Within the next ten years, outer space is going to be a multi-billion dollar market. The rewards will go to those managements who prepare themselves to cope with the challenges of the new science and technology in terms of time and of space. Already on the horizon are weather satellites, communications satellites, planetary rockets, and manned space ships—all of which will see the rise of entire new industries, and the rise of new lines of defense for freedom against the competitive challenges of Communism.

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FREDERIC MEYERS

Unions, Anti-Trust Laws, and Inflation

*... a critical look at some popular beliefs about the powers
of unions and how to control them.*

"Labor legislation" is a perennial subject for Congressional investigation and recommendation, action by state legislatures, debate, name-calling, and general emotional upheaval. No one denies that relationships between unions and management are so fraught with a public interest that they should be the subject of public regulation. At least in this area we have by common consent abandoned our historic slogan that that government is best which governs least. So far as I know John L. Lewis is the only recent protagonist of this classic view.

But regulation should be reasonably directed at the social problem it seeks to solve. We pass laws to accomplish some more or less specific social objective, and, presumably, the law is passed with such reasonably sufficient understanding of the behavior to be regulated that we can expect to achieve the end in view.

I think it is unfortunately true that in the field of labor, we have often tended to legislate by slogan, rather than with an intelligent understanding of the nature of a problem and of solutions appropriate to it. The examples are almost innumerable. The original Taft-Hartley Act's provision for elections to authorize a union to demand union security provisions was predicated on the supposition that many union members resented being prisoners in member-

ship by reason of union shop arrangements of which they disapproved. The provision was repealed in haste and embarrassment when the procedure served only to demonstrate that almost everyone who worked in an organized establishment believed in the union shop. The provision had in fact an effect opposite to that intended: it no doubt resulted in more union shops rather than fewer. I am sure that the predictions of both protagonists and opponents of "right-to-work" legislation as to its probable effects were way wide of the mark. The "national emergency" provisions of the Taft-Hartley Act have become almost wholly a dead letter because brief experience demonstrated very clearly that the provisions, and especially the so-called "last offer ballot," served no useful purpose in averting dangerous strikes, and may even have made some situations worse.¹ The War Labor Disputes Act, in its strike vote provisions, was another example of a remedy inappropriate to the problem.

It seems to me that this is true also of the

¹ The argument of this paper should not be taken to mean that as a society we should not be armed with measures to protect ourselves from the effects of prolonged great strikes which create an emergency. But this, I think, is a separate problem susceptible of special treatment.

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often advanced proposals to put labor under the anti-trust laws. Such proposals illustrate to me the worst futilities of two approaches to which we seem prone: legislation by slogan, and equity by analogy. The slogan that we ought to put labor under the anti-trust laws is defended by the surface equity of the statement that because business is subject to the anti-trust laws, labor in all equity ought also to be.

It is rarely specified precisely what is meant by a proposal to put labor under the anti-trust laws. If what is meant is what appears on the surface, that is, to apply the language of the Sherman and Clayton Acts to trade unions and their activities, it probably comes near to being as meaningless a proposal as any recently advanced. As any businessman knows, the language of these statutes, deceptively simple on their face, is subject to most diverse constructions, and the courts have had a great deal of difficulty in applying that statutory language to the real world of business enterprise. If we were facing the problem of their application to labor unions and their activities, one would be hard put to predict what might happen.

But let it not be forgotten that for more than forty years, labor unions were subject to the anti-trust laws, as the language of the statutes was constructed by a Supreme Court not notably sympathetic, in majority, to trade unionism. I think a review of the leading cases involving allegations of union violations of the anti-trust laws between, say, 1890 and the passage of the Norris-LaGuardia Act in 1932, and perhaps later, would reveal that virtually all of the successful prosecutions involved activities which have, since 1947, been unlawful under the Taft-Hartley Act. Strikes in pursuit of a closed shop and secondary boycotts are, of course, the clear situations.

The present status of certain kinds of organizational picketing is in doubt. I think the American Steel Foundries case, although it limited picketing to two "missionaries" at each

plant gate, indicates clearly that the right, in principle, to attempt organization by peaceful picketing and persuasion was, under the Sherman and Clayton Acts, lawful. The decisions of the NLRB in the Alloy Manufacturing and Curtis cases indicated that the Board had come to the view that picketing by a minority union, as in the American Steel Foundries case, was unlawful under Taft-Hartley. The Circuit Court reversed the Board in the Curtis² case, so that unions may, if the decision stands, be at least no worse off in this regard than they were when subject to the anti-trust laws.

The only major area of union action which seems now to be permissible but which was limited under the anti-trust laws is that of appeals to remote consumers to boycott. Even this the Board sought to sanction when the appeals were made by a minority union, in the Alloy case.³ Again, the Circuit Court reversed, with a strong hint that contemporary courts might hold that the circulation of "we do not patronize" lists is protected by the First Amendment. I think it can fairly be said that, substantively speaking, unions are now forbidden almost everything they were forbidden in the period of application of the anti-trust laws, and a good deal more besides. There are of course some differences in the remedies, but they are not important. While, after the Clayton Act, a private person might seek injunctive relief, the mandatory features of the injunctive provisions of Taft-Hartley remove any significant differences. Under Taft-Hartley, punitive damages are not available, but unions are rather more easily reached for damages. Furthermore, damage suits were even rarer under the anti-trust laws than they have been under Taft-Hartley.

Unions, then, are already under the anti-trust laws in the same sense that they were when courts made no distinctions between

² Bureau of National Affairs, *Labor Relations Reference Manual*, LXIII, 2156.

³ *LRRM* (see note 2), p. 2548.

business and union "restraints of trade." Whether to make unions subject to the anti-trust laws, then, is a false issue: the use of a slogan which has no meaning.

If there is a problem lying somewhere behind this slogan, it is successfully obscured by the slogan itself, for by applying the "anti-trust" laws we could accomplish no more than has already been accomplished. I do sense, however, that some of us feel that unions have grown somehow too strong, that they constitute dangerous "monopolies," and that something ought to be done about it. To the less discerning, "putting labor under the anti-trust laws" seems the appropriate solution, since these laws outlaw monopoly, don't they?

The real question, however, is whether or not unions in their present or immediately prospective state of growth are such dangerous aggregations of power that some *appropriate* restriction should be found. I underline "appropriate" for, if I am right in the preceding discussion, legislating a reversal of the *Hutcheson* case, in which the Court held that for most purposes unions were not to be subject to the Sherman and Clayton prohibitions, would not be a solution to this problem.

One circumstance should be made clear at the outset—that if unions are dangerous aggregations of economic power, that power rests on rather different bases than the kind of power to which the Sherman Act was initially and primarily directed. A business monopoly of a product or service rests on the right of property in the good or service monopolized. That right of property, at least until it was modified by the passage of the anti-trust statutes, carried with it complete control over the decision to release to or withhold the good or service from the market, and the unimpaired right to name the price at which it was to be sold if at all.

If unions do monopolize anything, it is labor services. Certainly the relation between a union and that which it "monopolizes" is quite

different from the relation between a business monopoly and that which it monopolizes. There is no right of property of the labor union in the services of its members. In fact, legally and in many ways practically speaking, collective bargaining is not concerned with arriving at a contract of sale and purchase. A union's power is moderated in a fundamental way unlike any threat to the power of a business monopoly: its dependence upon the continued attachment of its members, and their independent need for continued income. The reality of this threat is made clear by the at-least-occasional instances of lost strikes, and successful decertification elections. Imagine a business monopoly which would lose its power if its products, say ingots of metal, should vote that they don't any longer want to be sold by the monopolist!

Let us, however, not make the mistake that is so often made, of assuming that the loyalty of most union members to their unions is tenuous and that their attachment depends largely on coercion. This is simply and demonstrably not so, and the view that it is has led us down many of the legislative blind alleys mentioned at the beginning of this discussion. Indeed, more often than not, where the loyalties of members to a union waver it is because they feel the union has been insufficiently aggressive in raising wages. Most Teamsters remain loyal to Jimmie Hoffa and the Union, despite evidences of improper practice, not because Hoffa has underpriced their services but because he has done an astonishingly good job in meeting their very high wage expectations.

Nevertheless, in a showdown, because of the fundamentally different relationships between a union and its members as compared with a business monopoly and its product, a union's power is limited by the willingness of its members to take the risks they may be called upon to take—the possibility always exists that they will sell their services independently of the union.

Let us return to the objectives of anti-trust legislation. Presumably we approve such laws as they apply to business enterprise because we wish to relieve ourselves of the burden of monopoly prices and reduction in output consequent upon monopoly pricing policies. Considering the differences in the bases of power, can we reasonably conclude that unions exercise such power on the "price" of their "product" (wages) and its "output" (employment) that measures somehow parallel to anti-trust legislation need to be taken to protect ourselves against its exercise?

Before coming directly to this subject, let me remind you of a social decision taken in 1935 and its rationale: the preamble to the Wagner Act indicated these findings:

The inequality of bargaining power between employees who do not possess full freedom of association or actual liberty of contract, and employers who are organized in the corporate or other forms of ownership association substantially burdens and affects the free flow of commerce, and tends to aggravate recurrent business depressions, by depressing wage rates and the purchasing power of wage earners in industry and by preventing the stabilization of competitive wage rates and working conditions within and between industries. . . .

We went on to rectify this situation by the provisions of the Wagner Act. It was amended in 1947 by the passage of the Taft-Hartley Act, which, though it did impair in some measure the power of unions, preserved both the fundamental purpose and effect of the Wagner Act.

Without commenting on the economics of the quoted preamble, it expresses the view then held that wages should be higher than they would be without unions, and that, if they were, employment would increase (not decrease). It also quite apparently sought to encourage greater uniformity "within and between industries."

Our complaint, then, if we have one, is that we did too well what we set out to do in 1935.

No reasonable person, of course, would attribute the remarkably sustained prosperity of the post-war period to the single influence of

unions on wages and wages on the economy. War and defense have played such a major role that I am tempted to remark that our post-war history indicates that, rather than doing too much in the pre-war period to strengthen unions, we did too little *then* in the way of government expenditure.

But the fact remains that we have had a remarkably sustained prosperity with its benefits more widely shared than perhaps at any other time in our history. Many of our unemployed now fare better than did some of our employed in the mid-twenties. In a period of modest price increases, the five per cent of U. S. families whose incomes came from sources other than earnings showed increases in their incomes from 1951 to the last available figure, 1956, proportionately somewhat greater than the incomes of families wholly dependent on earnings. Median income for families with only earnings increased by 31 per cent, while median income of families deriving income only from sources other than earnings increased by 35 per cent.⁴

We have, of course, had a couple of interruptions to the course of the post-war prosperity, the most recent being the most serious. But I think one would be hard put to show that wage trends were a substantial contributing factor to its initiation, and, indeed, there is strong reason for believing that the ability of unions not only to maintain but to continue to increase wage rates was an important factor in its relatively short duration.

What then is our complaint about the impact of unions on wages that might warrant measures parallel to business anti-monopoly legislation? One problem remaining to be considered is the allegedly inflationary effect of money wages which, under union pressures, advance more rapidly than the appropriate measure of productivity. In a sense, wage increases have been illusory, for real wages have

⁴ U. S. Bureau of Census, *Current Population Reports*, "Consumer Income," Series P-60, No. 12, 27.

increased about as fast as increasing productivity permits, and the share of wages in national income, neglecting the rather characteristic cyclical increase of the past year or so, has remained about stable.

The gross data do indicate a deceptively large increase in the ratio of compensation of employees to national income. For example, from 1947 to 1957, this ratio increased from 66.5 per cent to 70.0 per cent. Almost the whole of this, however, is what might be called "the Benson effect." During this period, income originating in agriculture actually decreased, while national income nearly doubled. Because of our peculiar accounting systems, the ratio of compensation of employees to income originating in agriculture is very low—around 20 per cent. Thus, the shift away from agriculture to sectors showing much higher ratios automatically increases the gross ratio, an increase which cannot be attributed to the influence of labor organizations. If agriculture is given a constant weight over the period, the increase would be from 66.5 to 67.5 per cent. Perhaps a better measure is the ratio of compensation in private employment (excluding government) to income originating in private enterprise again adjusted to give agriculture a constant weight. This ratio increased from 61.6 per cent in 1947 to 62.7 per cent in 1957.

But in another sense the wage increases have not been an illusion, but have been quite real, compared at least with the 'twenties, when prices were stable, as we seem to think they should be now, and wages did not increase so fast under effective union pressures. The share of wages in national income fell, during this period, and below the levels of any recent period.

Historical analogies are dangerous, but the experience of the 'twenties certainly is some evidence that, without effective unions, or rather, given a wage policy with which a stable price level is consistent, price stability neither protects the workers' share in national income,

nor leads naturally and inevitably to economic stability.

It is, of course, true that we have had a rather modest "inflation" in the post-war period. But what is it that we object to about inflation? No one would care at all if *all* prices and *all* incomes doubled all of a sudden. Everyone would be equally well or badly off.

This, of course, has not happened in the course of the current inflation. Price, wage, and income movements have come unevenly. But the gross result has not been any considerable distortion of income distributions. The relative shares of wages and property incomes in national income have not changed markedly. And, as I have indicated while talking about the 'twenties, stable price levels are no guarantee against changes in these relative shares. Personal distribution of income has not been greatly altered, and, if it has changed at all, except during the very sharp Korean War inflation, it has been in the direction of improving the relative position of the low income groups—the widows and orphans.⁵

True, it has taken some governmental action to protect those groups least able to protect themselves. We have increased old age and survivor benefits, by Congressional action, not only for future but also for current beneficiaries. State old age pension programs, and other state-federal programs such as aid-to-dependent children have been adjusted to meet rising living costs. But these actions have been

⁵ Data on distribution of income in the U. S. are in such form that this kind of change in distribution is extremely difficult to measure. Some indication, however, is contained in the data previously presented above. Another indication is that, according to the Federal Reserve Board Survey of Consumer Finances, during the period of rather sharp price rises, 1956-58, distribution of a fairly constant total personal income remained very nearly the same, with 1 per cent fewer spending units in the lowest income class in 1958 than in 1956. See *Federal Reserve Bulletin*, March, 1959, p. 252. According to the Department of Commerce, the lowest quintile among consumer units ranked by income received the same percentage of total family personal income in 1957 as in 1955. See: *Survey of Current Business*, April, 1959, p. 16.

taken under affirmative political pressures of the labor movement, and often against the bitter opposition of those who, in other forums, weep bitterly over the fate of these people in inflation.

Of course the incomes of the widows, orphans, and pensioners have been protected against inflation, not only by government action, but also by the renegotiation of private pension and benefit plans, often benefitting current benefit receivers. And for these people, as well as the low income wage earner, assets such as liquid savings and government bond holdings are negligible—in 1958, 45 per cent of spending units held liquid assets of under \$200,^a and they may lose perhaps \$3.00 per annum in real value of liquid assets through recent rates of price advance. Part, all, or even larger amounts of this may be offset by gain in declining value of their debt. But a day's lost wages through unemployment, if this is the price of price stability, is much more costly than the depreciation of real value of their assets.

There is another problem worthy of significant mention. I have implicitly assumed for the purposes of this paper, though it is not wholly evident, that wage increases brought about by union power are a significant cause of the rising price level, or rather, that if the power of unions to raise wages were somewhat impaired, prices would not rise.

The connection between rising union power, money wages, and prices is not so precise that one can measure the tolerable rate of wage increases. Further, the connection between any proposed legislative impairment of union power and its effect on the rate of wage change is even less precise and predictable.

The limits of the desired result are, I think, very close. Instead of a rate of price increase of 2 to 3 per cent per year, we wish a rate of zero. But I think it clear that an error on the low side would be disastrous. Any wage

policy which resulted in sagging prices would almost certainly be much worse than one which results in upward drifting prices. It would be much more likely to lead to deferred investment, underemployment, and economic instability.

It cannot possibly be argued that we can predict the wage and price consequences of the impairment of union power within these necessary limits of tolerance. If we were faced with a 10 or 15 per cent increase in prices per year, clearly resulting from wage increases of this order of magnitude, we could with confidence act legislatively on union strength as a remedy. But the dangers of attempting such fine adjustments with such blunt and indirect tools are simply not worth the risk.

In sum, I take the heretical view that the degree and kind of inflation we have had has at least been better than the degree and kind of price stability to which we were once accustomed. Its allegedly undesirable effects disappear under the search for them, and the values of underlying economic stability, even at the cost of some upward drift of prices, seem, at least to me, to appear more and more evident.

Under this kind of examination, it seems to me that the economic rationale for impairing the power of unions to raise wages disappears. Certainly the danger, if there is one, is not clear and even its presence is doubtful.

There still remains what seems to me to be essentially an equitable, rather than an economic, argument. It runs something like this: admitted that the effect of trade union action has not been such as to alter the gross forms of income distribution—either as between wages and other shares, or as concerns the general shape of the distribution of personal income. But it has “distorted” patterns within these gross distributions. Some, e.g., unskilled and semi-skilled workers relative to skilled, or plumbers relative to school teachers, have gained or lost. It is undoubtedly true that in many ways the structure of wages and incomes

^a *Federal Reserve Bulletin*, March, 1959, p. 252.

is, internally, different than it would have been had we had neither as effective unions nor rising price levels. Whether these differences are "distortions" depends upon one's views, fundamentally, of equity. Over-enthusiastic job evaluation fans to the contrary, no one can tell what is the "right" relationship between the wages of a tool and die maker and an assembly line worker in an auto plant. And, indeed, this very case illustrates the way in which the special relation between a union and its members itself limits its power—the threat that tool and die makers might withdraw from UAW induced that union to reconsider its policy as to wage structures.

In respect to this kind of wage relationship, it is sometimes said that the giant employer, e.g., General Motors, can handle the big union, but the small employer can't. Such a statement is often made by the same person who argues against "industry-wide bargaining," and insists upon fractionizing bargaining units. The recent situation in the Los Angeles retail food industry illustrates both the inconsistency between these positions and the answer to the policy suggestion. The publicity attendant upon a strike in one market and lockout in many others spotlighted the "distortion" of wages in this area, at least the unusual relation between the wages of retail store clerks and other wages in Los Angeles. It is a case example of the ability of a strong union, by

whipsawing, to get remarkably good bargains for its members from relatively small employers. And the Los Angeles Food Employers Council has, I suspect, found the answer, by itself insisting upon a single bargain for many employers. I would maintain the position that outlawing multi-employer bargaining would increase, rather than decrease, the kind of distortion most people who complain about it have in mind. And, I think, the Wagner Act objective of greater uniformity (equity?) within and between industries, has, on the whole, been better served with strong unions than without them. Furthermore, the Taft-Hartley Act contains a provision, prohibiting a union from coercing an employer in the selection of his bargaining representatives, which might well be used to prevent a union from forcing unwilling employers into multi-employer bargaining. This provision has become almost a dead letter.

My position is not that unions are some kind of sacred cow, immune from regulation in the public interest. I can think of several kinds of union practices, particularly those relating to the internal affairs of unions and the protection of the rights of the individual members, which I think warrant appropriate legislative remedy. But it seems to me that the cry for impairment of the general economic power of unions is wrong, and even dangerous; certainly the anti-trust remedy is vain.

BENSON SOFFER

The Decline of Collective Bargaining on General Wage Increases*

This analysis labels recent trends in wage bargaining as "the easy way out" of the stress and strain of wage negotiation and sees in them a threat to the economy and to free negotiation.

During the past decade, certain developments in wage bargaining have brought a substantial reduction in the incidence of strikes and in the number of decisions on negotiated general wage increases. According to the Bureau of Labor Statistics, 1957 set record lows for the post-war period for workers involved in stoppages, per cent of total employed and per cent of working time affected by stoppages and the number of man-days idle. A comparison of the five-year period 1946-1950 with the five-year period 1953-1957 shows a generally lower level of strike losses for all these measures. (The years 1951 and 1952 are influenced by governmental wage controls and authority to settle disputes and are, therefore, abnormal.)¹

But of particular concern here is the reduction of the *number of decisions* on negotiated general wage increases which has accompanied these developments. This decline of bargaining

on wage increases is not generally recognized because observers often fail to distinguish between genuine decision-making over the bargaining table and mere formality. After all, the number of wage decisions under collective bargaining is not double the number of wage bargains struck when our concern is with genuine decisions, not formalities. To be sure, each bargain struck means two parties have accepted it, but this does not necessarily mean that each of the two parties has in fact made a decision. There is, for example, only sham wage bargaining when individual plants of giant corporations bargain with a local of a small union, or when a giant union extends its pattern to a small employer in the industry. In these cases the only true decisions were made somewhere else by the larger party. The local results merely implement a "top level" bargain in a much larger setting.

Three trends have served to reduce the number of wage decisions: (1) the centralization of decision-making; (2) the longer-term wage contract; (3) the elaboration and extension of "pattern bargaining." A description and critique of these practices is the purpose of this

* Professor Lloyd Ulman and my former colleagues in the Brookings Project on Union-Management Relations, Professor Irwin Herrnstadt, and R. Thayne Robson have made constructive criticisms which improved this essay. I alone bear the responsibility for any errors.—B.S.

¹ These data may be found each month in Table B (Work Stoppages resulting from labor-management disputes) in *Monthly Labor Review*.

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essay, in which these three trends will first be described and then their impact on the collective bargaining system explored and evaluated. We shall conclude with an evaluation and some suggestions for alternative approaches.

THREE TRENDS

Centralization

One reason wage bargaining has become centralized is that many hitherto localized industries are expanding geographically. For example, the construction industry is becoming more centralized because of the expansion in pipeline and highway construction, and the food industries through chain stores, national dairy and baking companies, etc. Moreover, managements are controlling increasingly dispersed operations and diversified types of products. Less obvious is the tendency of existing unions also to control more dispersed and diversified activities. It is typical of industrial unions, for example, that the Auto Workers should have units in 36 industries, and, of course, the largest unions encompass the most industries and have the most centralized decision-making.²

Management centralization of wage-bargaining decisions persists, despite the decentralization trend in production management, because the decision on whether to agree to a wage increase or to take a strike remains a matter of corporate-level policy.³ When formal bargaining is on a plant-level basis, even for non-union plants, corporate-wide decisions on local wage increases are the rule. This is true even in the considerably decentralized electrical equipment industry. The uniformity of wage move-

ments within the major producers in this industry is particularly striking in view of the reduced bargaining power of the unions as compared to 1945-1948, and because of the geographical decentralization and product diversification, which make wage differences institutionally and economically feasible.

There are many reasons why centralized decision-making in management creates a uniform wage increase for diverse operations. The most frequently encountered case is the erection of new plants away from existing plants. Naturally, the union in the older plants tries to organize the new plants. If the union succeeds, top management must control plant labor policies in order to prevent whipsawing. Irrespective of the outcome, however, the same wage increases are extended to the new plant either to avoid strikes or to convince the workers that they do not need a union. Thus, management's centralization of wage decisions has contributed to, as well as reflected, a tightening of the interrelationships among wages in different labor and produce markets.

Union centralization has resulted from many changes in the union structure which parallel, and are adaptations to, the evolving structure of the large firms (or of the entire industry) in which the union operates. In these situations, the union reinforces and extends, beyond the limits of the firm, the centralizing trends found in management. Which party initiates the new structures of decision-making does not significantly alter the outcome. Local union autonomy in wage decisions wanes even where it is not necessary to enforce the traditional policy of "taking wages out of competition."

It is true that many local unions, especially larger ones in centers of union strength, do not accept the loss of autonomy gladly. But the national unions have a number of techniques for bringing resistant locals to heel, when such action can be "justified" by industrial centralization. These include placing local unions in receivership, expelling their officials,

² See Professor Neil Chamberlain's survey, "The Structure of Bargaining Units," *Industrial and Labor Relations Review*, X (October, 1956), 3-25; and Mark L. Kahn, "Contemporary Structural Changes in Organized Labor," *Proceedings of the Industrial Relations Research Association* (New York: September, 1957).

³ See Helen Baker, *Management Procedures in the Determination of Industrial Relations Policies* (Princeton: Industrial Relations Section, Department of Economics and Social Institutions, 1948) pp. 10-23.

reducing the jurisdiction of a local and chartering new local unions, and supervising local finances. The *threat* that any of these steps will be taken combined with persuasive appeals that the local meet its obligations to the national union usually is an adequate substitute for the more drastic measures.

Union centralization has assumed many forms, but all the variations seem to amount to more centralization of power—either (a) in the hands of the officials of the International Union, or (b) in structures created by the International Union to force local unions to make joint decisions in dealing with a single company or a branch of the industry. Where dispersed, multiplant companies are involved, unions have created "Departments" or "Councils" (Auto Workers), and "Conference Boards" (Electrical Workers). Even the Teamsters have developed such groups for the large national companies like Montgomery Ward, A & P, Englander, Omar Bakery, and Fairmont Dairy. Another device is the trade division or industry department used by the Steelworkers, Auto Workers, Teamsters, etc. The International Union has a direct influence on these decisions while usually it has only indirect influence on decisions reached independently in each local.

The Teamsters are an especially important example of the centralizing trend. A loose alliance of autonomous local unions a decade ago, the International is now in the very advanced stages of a far reaching reorganization. Today, the union is divided into "Trade Divisions" and four regional "Conferences," each one of which has its own set of "Trade Divisions." The Divisions are established for specialized branches of the trucking industry and for the many Teamsters who never drive a truck (brewers, dairymen, warehousemen, cannery workers, and any others that the Teamsters were able to bring into their fold). The centralizing trends in structures of bargaining are in evidence through "Trade Divisions," whether there is a national agree-

ment (e.g., in haulaway trucking) or there are state-wide agreements (e.g., chemical and petroleum) in specialized branches of the trucking industry. Except for a small pocket in the Middle Atlantic states, the over-the-road trucking industry is on the threshold of *de facto* national bargaining on general increases in basic wage rates.⁴

A significant part of this centralization of union decision-making is not even a necessary step for effective bargaining. In a few years, the Teamsters will have established a national minimum wage and uniform wage increases for local cartage drivers and helpers. Wages in Idaho, Arkansas, and Vermont will be equalized, though this step will not significantly reduce resistance to wage increases. This step may be convenient for the larger carriers and for the International Union in controlling (the historically lower) wages of the rural-based smaller carriers and locals. It will be difficult, however, to police such a wage policy, for the

⁴ See Bureau of Labor Statistics, *Current Wage Developments*, CXXX (October, 1958) 7-8. Centralization of bargaining for Common, Contract and Private Trucking Carriers is best indicated by the 1958 wage reopening amendments to six agreements which cover 27 states. Six agreements are reopened and renegotiated simultaneously. Although two quite different branches of the industry—over-the-road and local trucking—have separate contracts, these contracts are administered through the same top union officials and grievance machinery on the last steps of the procedure. Basic (minimum) hourly and mileage rates of pay are uniform for the over-the-road trucking, and will be almost entirely uniform by the expiration of the contract in 1961. The February 1, 1958 amendments provided for the same general wage increases under all the contracts, over and above the automatic cost-of-living escalator clauses which they all contain. Three states (Virginia and the Carolinas) are under agreements which provide that they institute the same wage increases as those negotiated in the Southeast. The New England States and Western New York have adopted quite similar wage increases. Industrial Relations Department, American Trucking Association, Inc., *Statistics Supplement XIII*, Sec. II, Supp. E (April, 1958). In late May, a single agreement covering 1,500 West Coast employers welded 35 separate area contracts into a single agreement. "Master Freight Contract: West Coast," *The International Teamster*, LV (June, 1958), 7-9. In 1961, the master contract will also cover local trucking as well. Both would then obtain about the same increases as other regions. See *Business Week*, September 27, 1958, p. 139.

pressure of broadening inter-regional competition is insufficient for equalizing these wages, and may continue to be so for some time. Thus wage standardization could be made possible only by the power wielded by the strategically placed over-the-road drivers. A positive force working for standardization is the power of the Teamsters Union's top leadership, and their desire for even greater power.

Many forces have been altering the structure of hitherto decentralized unions. These unions have developed centralized decision-making although employers in several industries have resisted any broadening of the area of bargaining. Economic changes have often been used as a rationale for eliminating regional power centers in the interests of the political dominance of the over-all administration (e.g., the constitutional amendments in a recent Bakery and Confectionary Workers Convention, which placed the vice presidents in a position of complete dependence on President Cross).

Though in most unions structural changes have indeed accompanied economic changes, the structural changes do not usually seem to be carefully designed adaptation to the new structure of industry. Many are shaped as much by administrative expediency or empire-building propensities as by the requirements of effective bargaining.

The forms of internal reorganization are:

1. The merging of many small neighboring local unions into larger regional unions.
2. Establishing of regional conferences to handle negotiations.
3. Giving broad geographical jurisdiction over one branch of the industry to a particular local union.
4. Establishing national committees of top officials to "coordinate" bargaining on an inter-regional basis.
5. Including newly organized locations in existing local unions so that "locals" become regional empires.
6. Retaining giant "amalgamated" local unions (with miscellaneous jurisdictions) although they can be split into administratively homogeneous units.

Space limitations preclude extensive documentation of these forms, but at least one instance of each of these forms can be cited: The Meatcutters have established a local union covering stores in all of upstate New York. The Teamsters and Bakery Workers have used the regional conference. The Cement, Lime and Gypsum Workers have established an industry bargaining committee for the Portland cement industry. The Plumbers and Operating Engineers have assigned all pipeline employees to a single local union. The Boilermakers and Operating Engineers have West Coast locals whose jurisdictions extend over many states. The multi-industry "amalgamated" Teamsters locals in Detroit and St. Louis and similar Auto Workers locals in Detroit and Toledo have remained intact, although each is large enough to be split into several viable locals.

Thus, as a matter of deliberate policy, centralization has proceeded farther than economic changes require. The forces behind the centralizing policy are its important advantages for the top-level officials of expanding and diversifying organizations. These advantages are: (1) bargaining power can be increased and preserved by unitary control over a large organization; (2) scarce resources, i.e., trained negotiators, can be economized and the administrative costs of collective bargaining can be reduced. Let us examine these advantages further.

Bargaining power is not static in our dynamic, shifting economy. Even unaggressive organizations must be concerned with having such power consolidated, disciplined, increased, and conserved. A major union or company which refuses to diversify watches complacently while its ability to maintain a minimum degree of independent decision-making power wanes. For defensive purposes, if for

no other reason, diverse units are brought into the organizational structure of existing companies and unions. The powers and problems of "bigness" include a multiplication of conflicting internal economic and organizational interests. An increasing quantity and complexity of working compromises will be required, for the "big" organization that lacks cohesiveness loses its enhanced bargaining power. Centralized decision-making on general wage increases is one short-cut to internal cohesion.

Administrative costs for operating a decentralized organization seem higher than those needed in a centralized organization. Collective bargaining has become so complex that it requires more negotiators at a time when there is a declining role for the non-expert. Some areas of negotiation have become so technical that even the labor relations specialists rely on a host of experts. First-class professional negotiators will probably always be scarce—especially on the union side, for they must usually come from the rank and file and must survive the test of grass roots popularity and loyalty to the administration. An attempt to raise their quality often implies operating with a smaller staff at higher salaries.

The amount of resources that can be given to the task of negotiating and administering collective bargaining agreements often becomes a major determinant of the structure of bargaining and decision-making in unions, because union members usually resist increases in dues with much spirit. The costs of bargaining are also important to the management of smaller companies.

Usually, however, centralization cannot be confined to those times and places where it is clearly desirable. Centralized power tends to perpetuate itself and to spread in scope. Moreover, adoption of centralized decision-making by one party encourages a similar centralization by the other. This is obviously one effect of the growth of national unions on corporate organizations, but it is equally true of the

effects of large centralized corporations on the unions. To illustrate, a large efficient corporation will try to develop a good relationship with "strong" union leaders in order to make them "responsible"—i.e., reduce the pressures of militant rank and filers in the locals. This, of course, reinforces the centralized power wielded by national officials.

Long-Term Wage Parity Agreements

The elimination of bargaining as an annual tradition is the second trend that has contributed to the decline of collective bargaining. This has occurred in the most strategic and largest collective bargaining units—those of the major national manufacturing and transportation industries whose agreements cover over five million workers. Only 11 out of 262 wage contracts with fixed terms (each covering 5,000 or more employees and effective on January 1, 1958) were of only one year's duration.⁵ A decade ago, long-term contracts were very rare.

The spread of long-term contracts was made possible by a formula developed in 1948 by the General Motors Corporation. This formula provides for automatic wage increases, which guarantees a *minimum* annual increase in the floor under real wages *during the life of the agreement*. The precise amount of money wage increases cannot be predicted because of the "escalator clause" which adjusts wages frequently for small fluctuations in a Consumers' Price Index. This formula I shall refer to as "wage parity," because it is an application of the concept used in determining support prices for agricultural commodities.⁶ Wage parity

⁵ "Major Agreement Expirations and Reopenings in 1958," *Monthly Labor Review*, LXXIX (January, 1958).

⁶ The "escalator clause" adjusts "prices received" (wage rates) to changes in prices paid (cost of living index), the "annual improvement factor" establishes a favorable (current) base from which the escalator operates. The effect is similar to agricultural parity based on the historical price relationships in 1910-1914 because both formulas prevent (in varying degrees) productivity gains from being passed on to consumers.

and farm parity have approximately the same economic rationale and surface appeal to equity.

In most cases, long-term contracts have been introduced into an industry by the managements of the major corporations, possibly because the parity concept is very well adapted to decision-making for large conglomerate units. The more conglomerate the units falling under a centralized decision, the greater the need for a *general* policy like parity, which determines *minimum* wage increases for *all* workers. Also, the more conglomerate the units, the more closely does the employer's ability to pay approach an average of the economy's ability to pay.

Widespread acceptance of the wage parity formula in smaller units occurred after wage parity became entrenched in a number of key industries, for once this happened, the risks of giving up discretion as to the timing and amount of wage increases were reduced for smaller firms. They knew that they and their competitors would be under pressure to follow along anyway. The unions readily acquiesced; indeed, they have spread these agreements to many smaller firms.

The long-term wage parity contract is a new and sophisticated wage policy. The wage formula itself is a means of avoiding the burdens of frequent bargaining and its risks: uncertainties, frictions, costly delays, and strikes. These may seem more serious than the disadvantage of a parity formula, which is that automatic wage increases are likely to be larger or smaller than they would have been as a result of more frequent bargaining (because no one can predict the shifting balance of bargaining power in the next few years). Both sides can conserve resources and bargaining power frittered away in annual bargaining.

The logic of the wage formula has never been considered adequately; indeed there is still little appreciation of all its implications. After it had "worked" in a few large compa-

nies, it became "acceptable." Once the new policy was widely adopted, questioning could be turned aside by saying, "We may be wrong, but we are unanimous." It appealed to management because it seemed to protect against demands for very large negotiated increases in any single year. The union leader saw it as creating the workers' right to a guaranteed rise in real wage rates each year. The unionist felt that rights cannot be denied to anyone who is willing and able to take advantage of them⁷ and a "right" cannot be taken away (even by the one who confers it) without creating the bitterest resentment.

It also seems that the new "right" to at least a 2.5 per cent increase in real wages each year has been made all the more attractive because it rarely requires any additional obligations from the union or from the workers. (The overwhelming preponderance of the unions involved had foresworn resistance to technological change *before* they signed the agreements.) Parity thus becomes more than a method of reducing the frequency of bargaining and "regularizing wage increases." It establishes a longer-term wage policy and a broadly applicable wage pattern.

Pattern Bargaining

The scope and permanence of pattern bargaining have increased as the wage parity concept has been adopted in many unrelated industries. A decade ago, pattern bargaining was widely practiced, but, until now, it seemed to reach its peak in 1946. The permanence of pattern bargaining was then by no means assured. Resistance to patterns was based on the increasing economic uniqueness of each corpo-

⁷ Not all unions have attempted to acquire this right to a guaranteed annual wage increase. It is too rigid a policy for many unions in highly competitive industries (e.g., apparel, coal mining). A few corporations have accepted this policy, while cutting wage rates that are higher than those prevailing elsewhere in their industry. But actual wage increases in most units using the parity policy are at least somewhat greater than the minimum guarantee.

ration and the particularistic traditions of most American corporations and unions.

But with the rise of the parity concept, pattern bargaining is enjoying a revival. Today's pattern bargaining differs from that of the 1940's in that it is based on a common *idea*, rather than consisting of simple imitations of others in different circumstances. It is more permanent because parity is a long-term commitment, rather than a series of short-run expedient actions. Greater permanence has resulted also from the development of differentiated patterns which provide wage increases that are not identical in timing and amount, although the differences closely compensate for each other. For example, there is no appreciable difference between the total wage increases granted in the period June 1950-July 1953 to automobile workers under long-term contracts and those to steel workers under renegotiation. This careful balancing of *quid-pro-quo*s is a tribute to the ingenuity of the negotiators. Thus, pattern bargaining has not only survived, but also has become more adaptable, more sophisticated, and more widespread.

The recent growth of formal union alliances and informal management attempts to cooperate in their bargaining strategies promises further coordination of "independent" wage bargaining. Recently, alliances on the national level have been consummated between different international unions operating in a single industry or in a single national company. (Local alliances of craft unions have existed for a long time.) Also, the AFL-CIO merger has established a mechanism for coordinating policies of local industrial unions belonging to different international unions.⁸

Thus far, this movement has involved only limited cooperation by relatively weak local unions where a number of international unions have organized plants of a single "tough" corporation. But over the long run, coordination

will probably grow stronger and more widespread, if only because the relative weakness of uncoordinated union action is serious in these situations.

Informal (and direct) coordination of bargaining may become a permanent result of the bilateral and multilateral union pacts which have developed in the past decade. At the moment, however, the formal legitimacy of some of these pacts are in doubt; for the Teamsters Union has been involved in most, and the ouster of that union from the AFL-CIO means that open national alliances with the Teamsters are illegal. But there is nothing to keep alliances from continuing as a part of traditional union cooperation at the local level.

These alliances lead to coordinated wage bargaining for several reasons.⁹ Of course, alliances are much less rigid and more fragile than joint bargaining. But this is a strength rather than a weakness. Because an alliance is a limited commitment, it is more viable.¹⁰

Managements too have mended their fences. The recently concluded automobile industry negotiations indicated close cooperation for the first time among the "Big Three." There is reason to believe their cooperation in labor policy will not lessen in the future. Some em-

⁸ The Taft-Hartley Act has encouraged joint union action to avoid injunctions halting union jurisdictional strikes. Thus the employer has the right to assign work between unions, unless the unions have established their own mechanism for allotting jurisdiction. However, the employer will resist the unions' decisions on how to divide jurisdiction if the rules and wage scales for the various unions are seriously noncompetitive. This would increase resistance of unorganized contractors to unionization attempts.

¹⁰ In light of the different strike and bargaining rules characteristic of various national unions, alliances reduce rather than increase the possibilities of serious friction which would occur if all bargained as a unit. For example, the Teamsters and Retail Clerks have had many differences, but this did not prevent their cooperation on a limited basis when they needed each other. Joint negotiations between Montgomery Ward and Company and the two international unions (Teamsters and Clerks) resulted in a five-year agreement which ended (1) the Clerks' strike and (2) the rivalry between the two unions in that company. "History-Making Ward Contract," *The International Teamster* (June, 1958), p. 5.

⁹ "Industrial Unions Tighten Ranks," *Business Week*, October 26, 1957, p. 151.

ployer associations continue to provide a formal structure for coordination of negotiations (e.g., the Aircraft Industry Association, the American Iron and Steel Institute). Some local employer associations probably influence negotiations of smaller local firms. Informal discussion of management's bargaining strategy tends to be more frequent than is apparent. However, the secrecy and voluntary character of these alliances preclude any accurate basis for ascertaining their purposes and effectiveness. Available information indicates more, not less, coordination of employer bargaining.

THE CUMULATIVE PROCESS

The three trends just described are not independent; they actually reinforce each other.

1. Broad bargaining units covering a variety of areas and plants tend to breed longer-term agreements. The possibility of internal conflict of interest and differences in bargaining within each group make frequent bargaining more precarious than it was when units were smaller and more homogeneous. The larger the area of bargaining the greater the protection against unusually large or small temporary wage pressures from both labor and product markets. Thus, a master contract tends to discourage frequent bargaining and provides a greater consistency in year-to-year wage increases. Wages must be set by some principle in which parties may acquiesce in both "good" and "bad" times, "strong" and "weak" units, etc. Wage parity is such a principle.

2. The concept of wage parity promises a minimum guarantee of equity to *all* workers because it is based on the "performance" of the entire economy rather than any single industry. The formula which "protects" whatever bargain has been struck during the life of the contract provides a high floor under wage increases. All unions can unite on such a partial policy—although union rivalries may still feed

on the issue: "how much more than parity?" But, with such a high floor under wage settlements, the space between the floor and the ceiling will tend to shrink. Thus, wage increases will be similar, even if they are not rigorously equalized, and an underlying "pattern" is created.

3. The widespread acceptance of wage parity and the growth of coordinated decision-making by different companies and international unions supply a substitute for centralization in our highly decentralized and particularistic collective-bargaining system. Multi-employer and multi-union bargaining need not spread beyond their presently limited spheres. The informal alliances described above do not have to become formalized. The automatic character of wage movements under long-term contracts creates the same wage effects as semi-permanent liaisons. Hence, although pattern bargaining does not necessarily encourage inter-union and inter-company centralization in most instances, it has the same consequences for wage bargaining as formal centralization.

But the impact does not stop at this point; it is quickly felt in almost every sector of our economy. A few examples will illustrate the secondary and tertiary effects of wage movements required to permit less and less bargaining on wage changes.

1. Rural manufacturing plants are subjected to increasing, direct pressures to accept the wage increases adopted in major manufacturing centers. The new branch plants of multi-plant companies bring with them metropolitan area wage increases. These branch plants are established in an ever increasing number of small cities and employ an ever greater part of their labor force. Thus the direct pressure of rising local wages replaces the external pressures that were mild and indirect while the large corporations remained in the major manufacturing centers. In the Great Lakes region, for example, manufacturing wages in most

smaller cities must rise in step with those of the larger cities. These pressures are intensified and generalized by the extension of wage parity to trucking operations, which are essential in every industry, to all cities and towns.

2. The distribution and service industries are particularly susceptible to influences from these wage movements, for Teamsters are in an especially strategic position. They can bolster the weak bargaining position of many of these workers. Here it is literally true that the tail can wag the dog. This "dog" cannot plant its feet because they are set on wheels.

3. As parity wage increases are spread over much of the economy, they are accompanied by price increases in competitive industries whenever they exceed the rise in productivity and throughout all administered-price industries which adopt parity mark-ups to preserve their margins of profit. Once prices rise, economy-wide wage escalation lubricates the inflationary mechanism, causing further automatic wage escalation. The effects on the level of prices, output, and the distribution of income and resources are ultimately inflationary.¹¹ These mechanisms might not be very important if wage escalators were not extremely sensitive, but Consumers' Price Index changes as small as one half of one per cent will require automatic wage changes as often as four times a year. Such wage practices reinforce and justify the mark-up pricing philosophy, and with it the inflationary way of life.

IMPLICATIONS FOR THE FUTURE

Centralization of bargaining structure, the parity concept, and the entrenchment of pattern bargaining all presage the future development of : (1) the collective bargaining system

itself; (2) the level and structure of wages. In a society as dynamic as ours, the precise movement of developing trends cannot be determined solely by reference to past events. But drastic shifts in our attitudes, institutions, and laws can only be expected under more extreme pressures than are now present. Prediction is hazardous, to be sure, but it is wise to attempt to think through where we are heading.

Bargaining system: The emerging system of wage bargaining will be a considerably tightened version of our present formally decentralized system. Highly centralized bargaining on general wage increases within each of a number of industrial sectors seems assured. Most of these industrial groupings will be substantially larger than the groupings that emerged in the early 1940's. The number of unions may decline and most will assume a multi-industry character. Therefore, any wage decision by one of these large groups, bargaining solely for the workers in that sector, is likely to have an effect on other collective bargaining sectors. Although adjusting the national wage level through collective bargaining agreements may not be formally centralized decision-making by union and employer federations as in some Western European nations, the degree of coordination and uniformity of the wage movements may be similar to theirs.

The level of wages: The movements of our general wage level will be influenced by a wage decision in any one of these large "empires." With the widespread acceptance of wage parity, our general wage increases will also be highly coordinated and simultaneous. Thus, wage movements may be quite uniform, even if bargaining is "decentralized." Parity itself makes wage setting very different from that found under truly decentralized collective bargaining and non-union conditions. Thus, the United States may develop an inter-industrial sector wage structure that becomes very conventional and develops some logic of its own

¹¹ There is not space to elaborate on these effects nor to refer to the voluminous literature on this question. The author's position is summarized in "The Parity Concept and Destabilizing Wage and Price Movements," *Problems in U.S. Economic Development II* (New York: Committee for Economic Development, 1958), 111-118.

apart from the vicissitudes of the marketplace. Great Britain is in some respects already a microcosm of what I am describing for the United States in the future.¹²

Can we conclude that all wage increases will reach the parity level? This is unlikely to happen smoothly and regularly in a vast economy such as ours. The small-scale, highly competitive industries and the industries employing predominantly female labor often cannot, or need not, match parity increases in the short run. But these industries will be under severe pressure to raise their wages after some lag. Many of these industries, however, can raise neither their productivity nor their prices. For these industries, then, a parity wage policy may be a constant source of controversy. The 1951-1957 experience shows that there was a large persistent discrepancy between wage increases in the hard and soft goods industries. At the moment, the unions in some of the service and soft goods industries have not displayed any insistence on wage parity or the equivalent wage increases. But it is only reasonable to expect that there will be a reaction to this situation in the long run.

Wage structure: The consolidation of each of the largest collective bargaining empires will soon result in standard union wage scales on a national or broad regional basis. Geographical differentials, *as such*, are nearly eliminated in the automobile, steel, and trucking industries. Standardization need not imply narrowing *skill* differentials, however. Nor do the trends lead to a rigid wage structure within each industrial empire. The only conclusions that can be reached from our discussion are: (1) wage structure changes will no longer be a result of local pressures but the result of deliberate national administrative policy; and (2) the amount of bargaining over individual job rates, and union interest in internal wage

structures, will continue an already sharp decline. The same reasons for economizing on bargaining for *general* wage changes apply to bargaining over particular wage rates.

THE EASY WAY

This system will continue to evolve unless it is halted by political measures or industrial leaders reappraise it, for it provides both union and management negotiators with an easy way out of the pressures and risks of frequent bargaining. Neither management nor unions will readily give up the system, for to do so would sacrifice three very useful devices: (1) a formula that insures an annual wage increase and eliminates the necessity for bargaining, satisfying both workers and top management at the same time; (2) a method of making the bargain too unclear for workers and top management to criticize it effectively; (3) a rationale that makes it difficult for the public to criticize the wage increases.

1. It is a method of reducing strikes and worker unrest. These are costly to everyone and long-term wage parity contracts reduce both. Workers become accustomed to some gain each year. They are not easily persuaded to take the bitter with the sweet, and they are not mindful of past favors. Therefore, leveling out wage increases in return for a guarantee of an annual gain is a good way of forestalling unrest. And the workers do not have to strike for these wage increases. Top managements and boards of directors have become defeatists because of the steady inroads made by unions in the early days of collective bargaining. They still believe that each negotiation is a step in an orderly retreat which can be slowed only by delaying actions such as long-term contracts. These attitudes are not based on the facts. Most of the *recent* changes that the unions have "forced" on management are in the area of economic security for their members. These have not further diluted "managerial prerogatives" or reduced efficiency.

¹² See H. A. Turner, "Trade Unions, Differentials, and the Levelling of Wages," *The Manchester School of Economics and Social Studies*, XX (September, 1952), 227-282.

2. The centralized, long-term wage decision is a form of natural camouflage. The annual negotiated increase was something too completely and readily grasped as a victory or defeat by the rank and file and the Board of Directors who had to approve the deal. The negotiators had to make the annual "wage increases of x cents" less concrete and simple. What was done was to make invidious comparisons difficult by changing the duration of the contract, and by varying the timing and amount of wage increases. Uncertainties were also used — especially the escalator clause which takes the amount of money wage increases out of the control of the negotiators. Another device, bargaining over a broad unit, injected more intangibles into the wage picture. At the same time, a more rigid criterion is developed. (It should be noted, however, that when negotiations do occur, there are many areas of flexibility; for example, the details of the formula, the non-economic provisions of the contract. The more sophisticated negotiators can develop their *quid pro quos*. If not, there is still room for adaptation in the manner in which the contract is administered.)

3. The long-term contract and the parity concept provide a rationale that protects negotiating parties from hostile public opinion, an advantage important to the largest corporations and unions. Automatic increases cannot be ascribed easily to the "irresponsibility" of the negotiators. Allegedly, they are based on general economic trends and on concepts of fairness to labor. To the public, they seem to be adaptations to other people's inflation, paid for out of rising productivity and hence not contributory to inflation. Everyone can see that strikes are reduced and industrial relations improved.

But an ever growing part of the public also sees that the price of this policy is that the economic benefits of rising productivity are channeled to the parties directly involved rather than to society as a whole. The critics, how-

ever, are still at a disadvantage in assessing blame. The parity pattern is not inflationary when adopted in any particular company, but it becomes inflationary as it is widely accepted in industry. Yet, as long as the largest organizations use the parity pattern, it will be influential enough to be inflationary.

The reader should note that in many situations there are more substantial reasons for these wage setting policies, which I have called the "easy way out." The psychological "gimmicks" discussed above are only a few of many tools in building constructive collective bargaining and effective administration of unions and corporations. Officials of understaffed companies and unions may feel that the few extra months or more a year they normally spend in negotiations can be put to better use in improving administration, in developing leadership in their organizations, and in straightening out a problem plant or local union. But perhaps they could continue to bargain annually and do all these other things too—if they had an adequate staff or if they developed effective decentralization. Which approach is the best and what combination of measures is practical, of course depend on the situation in each organization. There are important longer-term considerations, however, that usually have not been weighed in the balance. It is to these matters that we turn in the concluding section.

CONCLUSIONS

We have seen how the changing structure of our economy is encouraging a policy of less and less collective bargaining on general wage increases. At the same time this policy has been, and will continue to be, extended beyond the limits required by economic forces. It does offer solutions and safeguards which seem beneficial in the short run, but which may be illusory in the long run. For it has entailed a commitment to an overly rigid long-term structure for industrial relations which does not fit

a dynamic, ever-diversifying, and decentralized economy.

Unfortunately, reactions against this system of collective bargaining have been manifested in ways which can affect managements, unions, and the nation adversely. Our society needs both rapid economic growth and reasonable price stability, but parity forces a choice between them. And the small and weak, who are very numerous, have been squeezed economically for some time by the combination of farm parity, wage parity, and profit margin parity. If the present system becomes hardened into tradition, we risk such legislation as direct wage and price controls, detailed regulation of internal union affairs, or fragmentation of the bargaining system itself. Indeed, there is already serious discussion of these restrictions on free collective bargaining.

Lower management and unionists are not likely to resist such encroachments very effectively, for they are not likely to feel very protective of a system in which they have little meaningful participation. Moreover, unions and managements will be weakened by a system that stultifies rather than develops future leadership. In such situations, it is very easy to aggravate problems by hobbling organizations with growing bureaucratization, by smothering men with misguided executive paternalism, and by confining day-to-day collective bargaining at the plant level to a minimal routine. All these will multiply already intractable industrial dissatisfactions. Naturally, our collective bargaining system's greatest strength — "the power of agreement"¹⁸ — will atrophy at the grass roots—where it is most needed. This pillar of our democratic society will weaken with the decline in meaningful authority for desir-

able innovation and genuine responsibility. We should, therefore, explore alternatives that do not entail risking undesirable consequences.

Developing Some Needed Correctives

The only widely discussed alternative to the "easy way out" is legislation to compel decentralization of bargaining—not a very realistic alternative, for the parties themselves are better able than is Congress to determine their structure of bargaining. It would not matter whether legislation restricted the area of bargaining to the individual plant, or company, or local area; for only the facade of negotiations, not genuine decision-making, could be prescribed by law. We have shown how one structure is often independent of the other. Even more elaborate schizophrenic structures are likely if such artificial restrictions are imposed.

Any superficial decentralization could be worse than useless—a meaningless make-work project—a social waste of the extra negotiating manpower, paper, printing, and transportation resources. But even if some true decentralization should occur, we would still not have developed competent, responsible leadership at the plant level.

There is no quick and easy solution to the decline of collective bargaining. The only way out of the "easy way out" is the "hard way out": (1) bargaining as frequently as economic conditions change significantly; (2) making separate decisions for units with significantly different needs; (3) diffusing authority and responsibility sufficiently to make these lower level decisions meaningful; (4) building uncoerced teamwork and natural leadership wherever possible at lower levels. The sophistication, ingenuity, and flexibility used to develop the easy way could surely be applied to modifying the system in the ways indicated above. There is no reason to doubt that such a program could be inaugurated if we strive for its accomplishment. The resources are available and the environment is favorable.

¹⁸ The case for genuine collective bargaining at the grass roots has been most eloquently expressed by George W. Brooks, "What Will Collective Bargaining Look Like in Twenty Years," *The Next Twenty Years in Industrial Relations*. Papers presented at the Twentieth Anniversary Conference of the Industrial Relations Section, Department of Economics and Social Studies, Massachusetts Institute of Technology, Cambridge (November 1, 1957) pp. 3-25.

A number of current conditions make this a most propitious time for taking steps to reverse this decline of wage bargaining: (1) the legal framework within which the large unions and corporations operate does not oppress either side; (2) we have emerged from a "sellers market" and the dangers of rapid inflation are slight; (3) there is now enough experience with bargaining under these balanced and stable conditions so that negotiators can become accustomed to facing longer-term realities of their specific situations; (4) there are ample resources for developing men able to negotiate and administer contracts. But especially important to action now is that the longer we live with long-term contracts, centralized bargaining, and pattern bargaining, the more used to them we will grow and the harder it will be to jettison the system.

What is lacking now is the motivation for abandoning a set of gimmicks that "work" as long as present irrationalities stand intact. Individual courage, much effort and patience will be required to teach harried top managements and apathetic rank and filers that, in itself, bargaining is an opportunity and not a problem. As the necessary motivation is likely to be inadequate until the eleventh hour, I would like to make a few suggestions for easing the transition into the "hard way."

- We must not only use, but persist in the

use of a gradualist approach. This time will not be lost as the transition cannot proceed very far or fast in the early stages. It should be undertaken only when intra- and inter-organizational coordination and economic conditions indicate it is timely.

- A first step would be a reduction in the interval between wage negotiations. This will reduce the need for a wage parity formula.
- The greatest defect of the parity formula can be eliminated by allowing escalators to operate only after there has been a substantial increase in prices.

If government economic policy succeeds in reducing the rate of inflation, and otherwise creates greater confidence and a sense of equity, the wage parity pattern will soon break up. As this pattern is a major force buttressing excessive centralization, its removal will provide an opportunity for using newly trained middle-level officials. The opportunities for these men to exert meaningful influence in reaching their own decisions would strengthen the men and the organizations involved, create more satisfying industrial relationships, bring new vitality to the bargaining process, and develop a structure of wages facilitating a more optimal distribution of income, use of resources, and balanced economic growth. Our nation needs more, not less, wage bargaining.

EDWARD G. KOCH

Managerial Strategy Through Classification and Coding

Reduction and control of variety help to make the most of automation and of engineering resources, and increase operating efficiency. Classification and coding is a proven tool for this purpose.

Many of the advantages to be gained through automation are nullified by an unnecessary variety of materials, parts, and tools. The techniques of scientific management in the form of simplification and standardization are useful to reduce, as well as to control, variety.

This article suggests how these techniques may be implemented by a logical system of classification and coding, and presents case histories of variety reduction through classification and coding by manufacturing company managements.

In this discussion, simplification means the process of reducing the number of types and varieties of items produced or bought. Standardization means the process of securing the maximum utilization of preferred varieties of items after agreement on standards of performance, quality, composition or dimensions, and the application of those standards. The close relationship between simplification and standardization is readily apparent because the very process of reducing variety should automatically result in the greater utilization of the remaining variety.

SIMPLIFICATION AND STANDARDIZATION

Automation, whether in the form of an electronically controlled plant or in the form of

transfer machines, yields the maximum economic results only when the variety of parts, materials and even tools is reduced to a minimum. Simplification and standardization, consequently, are essential features of the automatic factory since they lead directly to longer production runs by reducing the parts designs and the number of machine setups. The many advantages claimed for automation, such as saving of direct labor, reduction of work-in-process, better manufacturing control, and greater machine utilization, are not fully realized unless products are so designed as to be produced from a minimum variety of component parts. These component parts should in turn be produced from a minimum variety of materials, supplies and tools. The objective is *maximum ex minimo*.

Simplification and standardization are relevant to any stage of the productive process, from the design of component parts and tools, through the purchasing of materials and supplies, to the planning and production of the finished product. Most firms are familiar with product simplification resulting from an analysis of sales distribution, consumer preferences, market channels, product profitability, and distribution costs. Management is not so familiar, however, with the simplification and standard-

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ization of the materials, components, and tools which are required to produce the optimum or agreed range of finished product. The creation of a new model or product in the design department often results in the finished article being more complex than is necessary for required performance or customer satisfaction; and the component parts, materials, supplies, and tools are oftentimes of greater variety than necessary. Perhaps it is not so obvious in manufacturing operations that excessive engineering and production costs, as well as excessive capital investment, radiate from the point of design.

The primary cause of unnecessary variety is the absence of precise identification and the lack of simple means to locate past designs. Ambiguous descriptions, fortuitous nomenclature, and meaningless numbering give rise to wasted designs, excessive inventories, and inefficient manufacturing. Similar and even identical items designed for different assemblies and products, become concealed and often impossible to trace, because of the widely different descriptions which they acquired at the design stage. Frequently, new tools are made and unnecessary operations performed when parts are designed and materials are used for which closely similar and even identical ones already exist.

Frederick W. Taylor saw the need for avoiding these difficulties in the practice of scientific management.¹ Taylor devised alphabetical classification and coding which he termed a mnemonic system. His followers adopted a combination of letters and numerals or expanded the use of Universal decimal classification and the Dewey decimal scheme. However, these systems were found faulty or too global for practical industrial purposes. It became apparent that a classification system, if

it were to be effective in actual operation, should be tailor-made and should have a specific aim in view. Taylor's great achievement was to point to the significance of classification and coding in scientific management and to indicate the industrial need for special-purpose systems.

PRINCIPLES

A special-purpose system of classification and coding is only gradually being recognized as a logical and systematic approach to simplification and standardization. (See Figure 1.) Compared with other scientific management procedures, the field of classification and coding has been left relatively unexplored. There are perhaps two reasons: first, the losses stemming from the lack of effective classification and coding are not self-evident, and second, the technique of designing special-purpose classification and coding systems is fairly new. The advent of electric tabulating, integrated electronic data processing, "information retrieval," and automation has renewed an emphasis on the importance of classification and coding for managerial strategy.

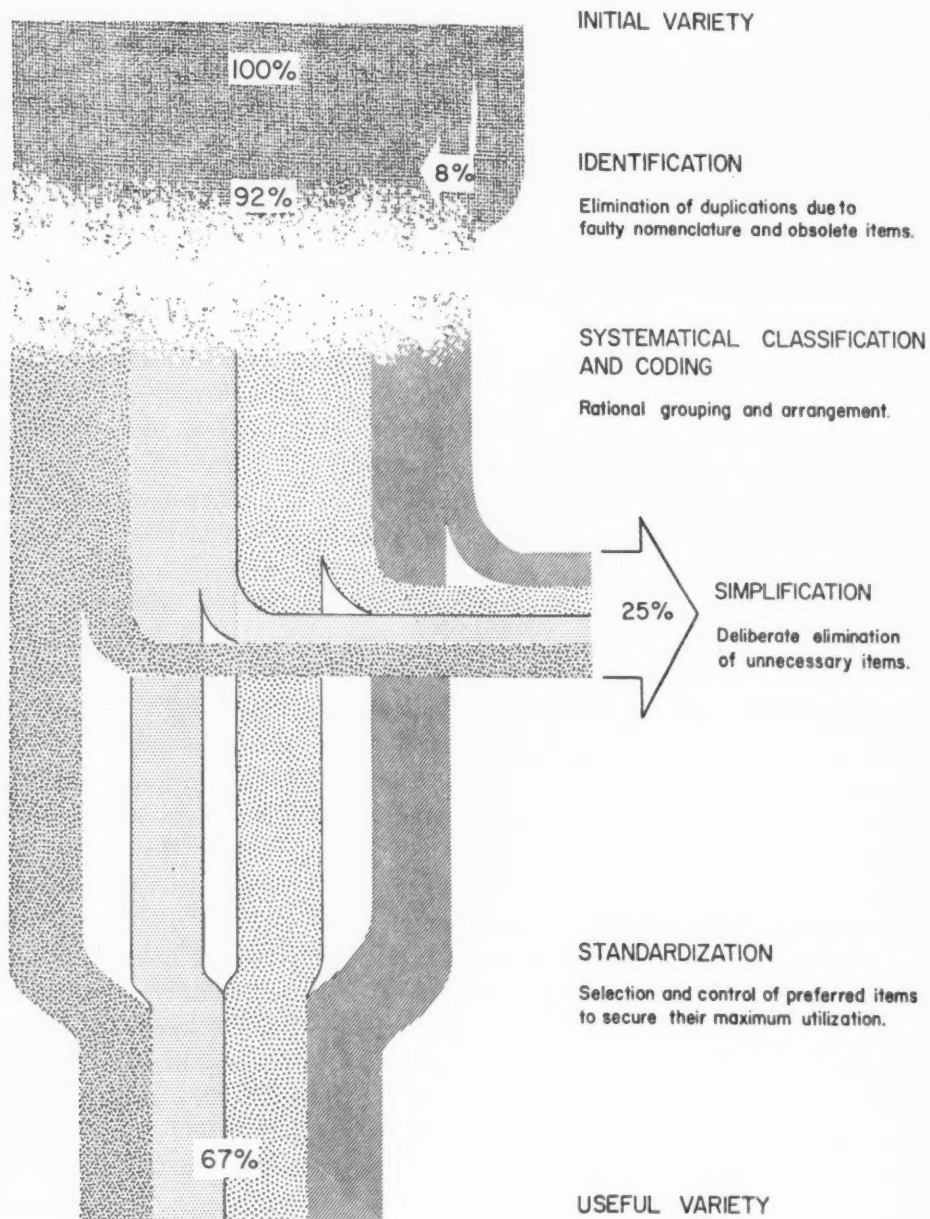
The mechanics of developing a satisfactory special-purpose classification and coding system is a complex task.² The problem is to design a coding scheme in which the numbers are not too long, are easily handled manually or mechanically, are easily understood by personnel, and are suitable for expanded use. Many pitfalls and false starts are unavoidable unless a set of sound, practical principles is firmly established. A few basic principles are suggested below.

The art and skill in constructing a special-purpose system lie chiefly in maintaining a consistent point of view which, in the general affairs and activities of a given organization,

¹ For a comprehensive discussion of classification and coding in the field of scientific management, see *Production Handbook*, L. P. Alford and J. R. Bangs, editors (New York: Ronald Press, 1947), pp. 1335-1374.

² See especially Norman T. Ball, "Making a Classification System," in *Punched Cards*, R. S. Casey and J. W. Perry, editors (New York: Reinhold, 1951), pp. 379-392.

FIGURE 1
REDUCING VARIETY BY
SIMPLIFICATION AND STANDARDIZATION



NOTE: Experience in manufacturing activities finds that the above average reductions in variety of items are realized when simplification and standardization are implemented by a logical and systematic approach of classification and coding.

will satisfy the greatest number of users. The first principle, therefore, can be described as the principle of consistency of point of view. The second principle is that of comprehensiveness: the system must cover the entire range of items for which it is devised and yet allow room for expansion. There must be a place for everything. The third principle is that of mutual exclusiveness. There must be one place for one thing. Items are classified and coded by what they are, rather than by brand name or current nomenclature. The fourth principle is that of simplicity: the system must permit its operation by non-technical people. The fifth principle relates to logical order: the appropriate order of complexity must be maintained in the arrangement of classification criteria, i.e., from inexpensive to expensive, from soft to hard, simple to complex.

Many company managements, realizing their needs for special-purpose systems, have arranged and sorted their items in catalog form, of which parts, materials, or standard catalogs are illustrations. Unfortunately many of these catalogs have been unsuccessful because neither the catalogs nor the standardization programs have been based on sound principles.³

THE CLASSIFICATION FRAMEWORK

The first essential step is a clear and well-defined plan to construct the classification framework. This requires the determination of main classes, as suggested below:

- 0000 Organization and administration
- 1000 Primary materials

- 2000 Purchased commodities
- 3000 Components or parts
- 4000 Subassemblies, assemblies, products
- 5000 Tools and dies
- 6000 Machinery and equipment
- 7000 Buildings, services, utilities
- 8000 By-products, scrap, waste
- 9000 Reserved

Each main class can be sub-divided into nine sub-classes, each sub-class into nine groups, each group into nine series and each series into nine hundred and ninety-nine sector numbers. While the classification system, in every case, should be expressly adapted to meet the requirements of a given company, the number of digits allocated does not usually exceed seven and any system likely to be used in industry can be classified under the ten main classes mentioned above. The tenth class and digit are reserved for items outside the scope of foreseeable expansion.

It should be noted here that there are many different ways of constructing a classification framework and of assigning identification numbers. There is a school of thought which believes that the identification number used should be an arbitrary numeric expression, as short as possible and perhaps with an added self-checking digit. Then, within the file, codes can be carried for the various characteristics of the classified items.⁴ This approach, a form of polycoding, is particularly appropriate with electronic operations.

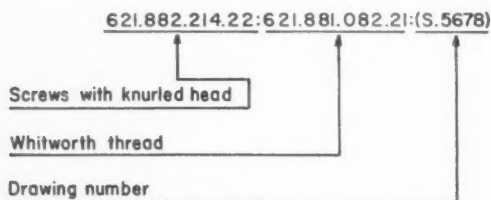
Furthermore, there are different ways of accomplishing the same objective.⁵ For example, under the Universal decimal system, a screw

³ The new Federal Catalog System also falls short of sound principles. See *Supply Management Reference Book* (Washington, D.C.: Department of Defense, June, 1958), p. 55 states: "The Federal Catalog System does not always identify equivalent or interchangeable items under a single Federal Stock Number, nor, in or of itself, reduce the number of items originally identified in the (supply) system or effect standardization of existing items."

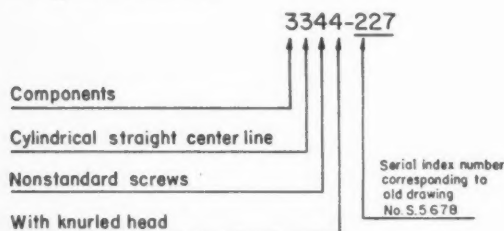
⁴ However, Ball cautions on p. 379 in "Making a Classification System," as follows: "The presence of a code notation does not of itself necessarily mean that the concepts coded are systematically arranged or classified."

⁵ This applies not only to industrial classification and coding, but also to classification of knowledge and coding in library science. See W. H. Phillips, *A Primer of Book Classification* (London: Guardian Press, 1955), especially pp. 62-179.

with knurled head, Whitworth thread, to drawing S.5678, would be classified as shown below:



Classification and coding according to the system presented in this discussion would reduce the number of symbols from thirty-eight to eight, as follows:



The system of classification and coding suggested in this article is adaptable to small, medium-size, or large companies as well as to manual, mechanical, or electronic operations.

IDENTIFICATION

In establishing and developing classification as a tool for simplification and standardization, each item must be accurately and sufficiently identified according to its nature. Variety cannot be reduced without knowing precisely what variety exists. Faulty descriptions, trade names, and proprietary terms cause closely similar and even identical items to be concealed. For example, Tufnol Kite, Bakelite B 152/1, Texolex ZA and Pirtoid MP. 31, are all the same laminated plastic resin bonded paper tubes. Also, the trade names of F.S.T., S. F. 20, Evershyne B. S., and Maxilvry are four among a number of proprietary names which are all the same stainless steels. In a recent instance eight very similar components which could be made completely interchange-

able were found under the eight different names of pin, pivot, spigot, axle, stub, bolt, swivel, and stud.

In another case, thirty-two perfectly plain sheet metal discs bore thirty-two different names (incidentally, the name disc was *not* used). The same situation pertains to materials. Four bins were found in different stores of the same plant bearing the inscriptions "Kraft paper, brown"; "Paper, Kraft, brown"; and "Paper, brown, Kraft"; and they were all under different code numbers. In another case, production was halted for apparent lack of plastic sheets of one brand, when there was a large stock of identical material under a different proprietary name, classified under a different code number. Duplications and concealed items are also caused by such terms as "miscellaneous," "sundry," and "etc." which creep into catalogs or code books and often-times become the largest individual section.

CLASSIFICATION

The next step is classification, i.e., the grouping or arranging of similar items according to their common features and subdividing them by their essential differences. Accurate identification alone is inadequate. The classification is ineffective without a painstaking analytical approach to determine the requirements of a practical classification system. The classification of items by the arbitrary names that they acquire because of the functions or assemblies for which they are designed frequently creates instead of prevents unnecessary items. It is essential, therefore, that:

- Items should be classified according to those characteristics or features which are permanent.
- The classification should be such that an item is found in one place and one place *only*. Terms like miscellaneous, sundry, and etc. are never used.
- There is ample room in the framework to allow for the introduction of new items

without causing the classification to break down.

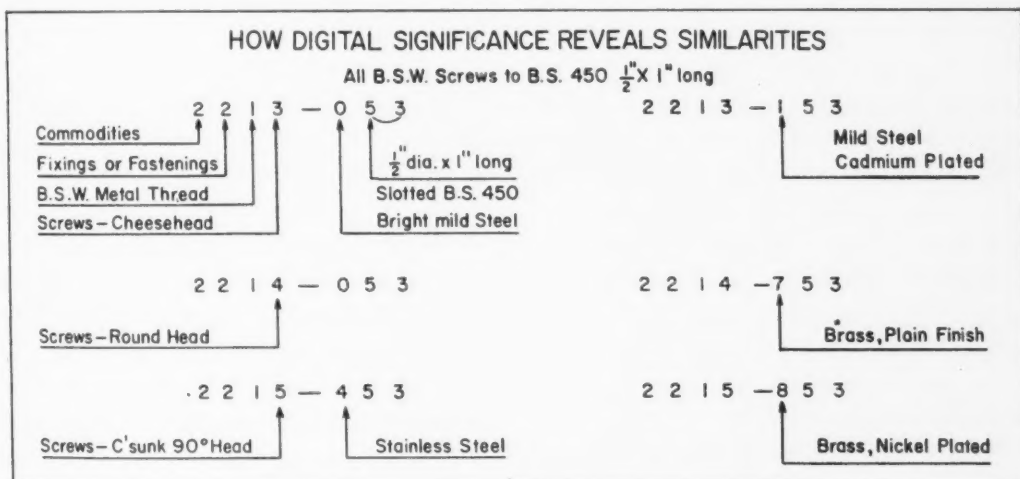
- The classification must be designed from the point of view of the user.

An analogy which illustrates the logic of this approach is offered by the game of Bridge. Most people, when asked what they do first after picking up their cards, would say that they sort them. This is not so. The first thing they do is to examine what they have. In short, they identify what they have in their hands. Only when they *know* what they have do they sort or arrange their hands. Although each of the four players may sort his cards differently, each sorts them from his individual point of view, according to the permanent characteristics of each card as to color, suit and value with the objective of being able to find quickly what he wants at the time he wants it. Similarly, a systematic classification enables a company management to compare what it has with what it wants. While accurate verbal descriptions are required for correct identification, their phrasing and length make comparisons unsatisfactory. Therefore, it is advisable to symbolize the classified descriptions by a code

(like the number in the corner of playing cards), which immediately reveals similarity and interchangeability.

Most industrial codes today are often no more than meaningless sequential numbers or a mixture of letters and numbers mainly without significance, unequal in length, and not insured against breakdown because of insufficient space to introduce new items within the range of numbers allocated. As a key to simplification, the code should be easily understood and interpreted. It should provide the means of controlling variety by facilitating a quick comparison of all proposed new items with similar existing variety so that superfluous items may be eliminated and unnecessary designs prevented. For a useful system adaptable to electronic data processing, electric tabulating, or mechanical sorting and recording, the code numbers themselves should be wholly numerical and of constant length. Each digit should carry a significance by virtue of its position and its value (see Figure 2). The code number becomes not only a description of the item, but also an identification, location, and sorting number.

FIGURE 2



NOTE: The code numbers should be wholly numerical, of constant length and each digit should carry a significance by virtue of its position and its value.

PREFERRED AND NONPREFERRED TYPES AND SIZES

Classification must take account of those types and sizes of materials and commercially available purchased items which, from the user's point of view, have the greatest potential use. Scheduling of the preferred types and sizes constitutes the first step of establishing company standards around which the designer is encouraged to design, and which are used without higher approval. The remainder are the nonpreferred types and sizes, the use of which is discouraged. These should be eliminated by consuming in production or maintenance, by reprocessing, or by liquidation. Their reordering or restocking is avoided through control by the director of the company code manual. Thus the schedules of preferred and nonpreferred varieties express a company's policy of simplification and standardization tailored to its own specific requirements.

A system of classification and coding, designed on the basis of these principles and with these objectives in view, reveals whether the retention of certain items is justified; whether there are redundant materials; whether a component about to be designed does in fact already exist; whether, if no present component is suitable, a closely similar part could be used; whether existing tools are usable or obsolete tools are reworkable; and whether there is duplication of items. In the case of one company, a considerable duplication in stocks of insulating tape was uncovered by converting the original meaningless stock numbers into significant code numbers; variety was reduced by nearly 30 per cent.

CLASSIFICATION BY DESIGN FEATURES

Excessive variety occurs not only in materials and commercially available purchased items but also in the design of individual piece

parts which are created as new products are designed and developed. Few industrial managers would deny that closely similar and even identical parts are designed and produced within their companies because they lack the control mechanism for quickly tracing *all* similar parts of their drawings to make certain that there are no existing suitable ones.

The classification of designed parts under their titles or generic terms such as pins, spindles, shafts, collars, brackets, and levers, has often been attempted. Standard terminology does not suffice because there is no clear distinction between a bracket and a support, a lever and a link, or a collar and a sleeve. To describe a plain single diameter pin, 111 separate names were found among the drawings of four different manufacturers (see Figure 3).

Designed parts should be classified or grouped by their design features. In some instances the predominant feature may be shape; in others, the given part name may clearly identify the item, as illustrated by a gearwheel or a nameplate. By classifying individual piece parts according to their permanent basic characteristics and proceeding systematically from the general to the specific, small groups of closely similar drawings are brought together, irrespective of the existing names, functions, or assemblies for which they were designed.⁴ Through the mechanism of a numerical code designed to symbolize these characteristics, and through the medium of a coded catalog of all such drawings, the designer is provided with a simple and foolproof method for locating all drawings of parts similar to the one he is ready to design. If a suitable one does not exist, the availability of all similar parts allows the designer to consider the possibility of a new design fulfilling not only the new function, but also that of one or more of the existing

⁴ In one case, a company adopted this procedure for both domestic and foreign operations and so far has found that 3 per cent of the individual piece parts in inventory were duplications and 8 per cent were obsolete.

Pin
Pin h
Peg
Locat
Dowe
Brush
Valve
Canop
Roller
Pivot
Brush
Plug
Spind
Stop
Roller
Plung
Conne
Trunn
Elect
Pin pi
Pin an
Pin cr
Drive
Pivot
Plain
Dowe
Wire
Bond
Sealin
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No
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FIGURE 3
WHAT'S IN A NAME?

Pin	Inlet rocker bracket oilway plug	Slave spindle
Pin hinge	Armature cradle bearing rod	Clutch roller
Peg	Connector moving oscillator coil	Counter shaft
Locating peg	Main spindle location pin	Reset spindle
Dowel	Armature laminated rivet	Straight pin
Brush	Latch	Armature stem
Valve cotter	Button	Contact spindle
Canopy rod	Stud	Drain tap boss
Roller shaft	Rod	Piston rod pin
Pivot	Hinge rod	Handle stop pin
Brush	Lock rod	Pin push lever
Plug	Push rod	Fuel pump tappet
Spindle	Valve rod	Kicker catch pin
Stop	Plain rod	Thrust collar pin
Roller	Rivet	Carrier link pin
Plunger	Spacer	Sanding valve
Connector	Post	Valve cotter pin
Trunnion	Bar	Clutch toggle pin
Electrode	Dashpot rod	Swing bolt pin
Pin pivot	Valve stem	Pin-towing eye
Pin anchor	Flag pivot	Wheel stud dowel
Pin crank	Crank rivet	Water pump dowel
Drive pin	Roller pin	Chain anchor dowel
Pivot top	Pin link	Jack leg plug
Plain pin	Post mileage	Dowel for main bearing
Dowel pin	Location pin	Reset frame shop pin
Wire pin	Operating pin	Breather hole plug
Bond pin	Trip arm pin	Selector bar plug
Sealing sleeve driving pin	Pawl spindle	Governor weight spindle
Intercooler fitter dowel	Special pin	Connecting link rod
Starting handle shaft pin	Eyebolt pin	Oil relief ball stop
Distributor drive plain pin	Bearing pin	Float lever stud
Water pump driving pin	Dividing bar	Contact lever axle
Governor drive coupling pin	Roller spindle	Pin clamp plate
Manhandling bar knuckle jaw pin	Lever spindle	Pin mould holding
Water pump spring collar peg	Armature stud	Motor drive spindle
Pump drive centre driving peg	Pinion spindle	Sanding valve roller

Note: The 111 names in this list are actual names found among the drawings of four different manufacturers and describe plain single diameter pins.

parts, thereby enabling these to be eliminated. For example, two components of a company were exactly identical with the exception that one was left-hand and the other right-hand by virtue of countersinking. If the drawing of the first part could have been located (which was not possible under the original numbering), the first part could have been countersunk on both sides, thus eliminating a second design and second pattern. A significant coding sys-

tem would have immediately revealed the similarities even though there was an eight-year span between the two designs. This is not an isolated illustration; it is found all too often in modern industry.

COMPANY CASE STUDIES

The discussion now turns to three actual company cases for evidence of practical results from systematic classification and coding.

• The first case study describes the steps taken by Company X to initiate a program of variety reduction for the components used in the mechanical equipment which it produces and sells. Company X defined a component as "any single piece part in its detail form which has been designed by our own drawing department; this excludes both purchased shelf items and sub-assembly items."

The Company X design department library contained about 200,000 drawings, 120,000 of which were component detail drawings. The rate of growth approximated 8,000 to 10,000 new drawings a year. So as to insure maximum economy in product design, tooling, and manufacture, the maximum usage of existing component parts should have been achieved during the design of each end product. For this reason the design detail records for previously similar produced components should have been readily and promptly available.

It became apparent that the method of classification used by the company did not accomplish such purpose. This classification system was based on an alphabetical index of component titles—a method still widely used in industry today.

Company X discarded this inadequate method and converted to a system of classification based on the design features or characteristics of the components. The classification and coding covered a period of about one year. To facilitate the work of classification, all the company's drawings were photographically reduced to a standard print size of 5 inches by 7½ inches and conveniently filed in standard metal cabinets. These prints were systematically classified in such a manner as to enable the designer or engineer to build up from a Component Code Book, by the progressive description of the design features or characteristics, the classified code number for a detail part either identical or closely akin to that which he requires for his new design. He then

refers to the standards reference library and quickly obtains complete information regarding a range of existing items available within the class in which he is interested. In the company's experience, a designer or engineer could now be supplied with this information within about thirty seconds of describing his requirements.

It is now a policy of design procedure that any existing component data *must* be referred to before incorporating any completely new component into the design of a new product. Existing parts must be used whenever possible without interfering with the proper functioning of the product. No new drawing is started or approved until a search is made to uncover an existing component which would fulfill the purpose. Consequently, there is a complete control of duplication. Strict adherence to this principle avoids the cost of designing, detailing, tooling, planning, purchasing, scheduling, and storage associated with every new part.

On the simpler parts having six to twelve dimensions, the savings were about \$250 each. On the more complicated types of components the savings ranged upward from \$2500 each depending upon the amount of new tooling required. When the standards reference library had been in full scale operation for a year, it was found that the designing and detailing of a new component had been prevented as often as 20 to 30 times a week by successfully recommending an existing one. Based on a minimum saving of \$250 a component, Company X experienced an annual rate of saving between \$250,000 and \$375,000.

• Company Y adopted systematic classification and coding covering materials, fixings, and fastenings.

The company produces a wide variety of components in comparatively small runs. It has two distinct lines of manufacture in refrigeration equipment, and elevators and escala-

tors. The two lines are handled in separate design departments but all pass through one manufacturing organization with common stores and inventory control. Before a meaningful coding system was introduced, two catalogs were carried, one of which included all raw materials, studs, nuts, bolts, screws, and a variety of purchased finished items.

The company management became aware that stocks were held of very similar, if not identical, items. It was decided, therefore, to undertake a thorough analysis of stocks and to carry out full scale systematic classification and coding under a simplification and standardization program. The introduction of a completely new system of identification or numbering did cause some disturbance at the start, as always happens with any change in business procedures. Company Y found that after some initial opposition, because of inconveniences and fear of disorganization during the transitional period, enthusiastic support was forthcoming. The design departments appreciated the advantages of being able to find quickly what was carried in inventory. The stores and stock control departments realized the advantages in bringing like materials together and reducing variety.

The actual work of analyzing the details of all materials, fixings and fastenings soon disclosed the deficiencies of the current catalog. This exercise in itself forced the company to be precise in stating which specifications were really required and commanded the attention of the design director.

Company Y had about 5,400 different materials in stock and 3,800 stock fixings and fastenings. The work involved in changing to the new coding system extended over a two-year period. The change-over to the new numbering method could not be started until details of all materials originally stocked had been classified and coded. Before the design departments

started listing items under the new numerical code, all cards in the stock control system had to be rearranged in sequence of the new numbers and conversion lists provided to all departments so that they could easily convert from an old to a new number or the other way around. The rearrangement of materials in stores was not effected before the date of the change-over, but the storage bins were marked with both numbers and the rearrangement took place gradually.

Finally, the company assessed the benefits derived from the adoption of the new system. Material stocks were reduced from 5,458 items to 3,829 or nearly 30 per cent. Fixings and fastener stocks were cut from 3,783 to 2,864 or almost 25 per cent. To the substantial reduction in inventory investment, the savings in storage space and costs is added along with the ease in finding, recording, and issuing the materials. Another important side effect is that when the stock control department submits a requisition, the purchasing department, there is no doubt about what is required and it is not left to the imagination of a member of the purchasing department to order *his* interpretation of the requisition. Moreover, the new coding system simplifies purchasing procedures and facilitates more economical commodity buying.

An officer of Company Y made this statement: "I think perhaps the best evidence I can give for the success of the new code system is that when management proposed to extend the system to components, some of the most enthusiastic supporters of the plan were the design department, stores, and stock control staffs, as well as the buyers in the purchasing department."

• Company Z also installed systematic classification and coding. Here are examples of their reduction in specific varieties:

<i>Example</i>	<i>Original No. of Varieties</i>	<i>Reduced To</i>	<i>Per Cent Reduction</i>
Bright mild strip	863	505	41
Spring steel wire gauges	39	16	59
Brass rod, B. S. 249, up to 1 in. diameter	55	29	47
Bright mild steel rod	63	29	54
Oils and greases	223	108	52
Paints, thinners and powders	600	278	54

Thus in practice, companies which adopt a meaningful system of classification and coding are able to reduce substantially the variety of items produced and purchased outside. Experience shows that variety reduction averages 33 per cent—8 per cent at the identification step and another 25 per cent at the simplification step—as illustrated earlier in Figure 1.

CONCLUSION

Systematic classification and coding provides, therefore, a logical and solid foundation upon which to base a simplification program for the automatic factory or for just basic engineering economy and production efficiency. Variety can be reduced and, equally important, controlled. Each variety will normally require a minimum stock and, for every variety eliminated, there is no need to increase the holdings of the remainder proportionately. A more economical inventory can be established and maintained; fewer bins are required; storage space is saved; a tidier stores layout is

achieved, and the annual cost of holding inventory is reduced with consequent improvement of return on investment.

If items are stored in code order, a greatly improved stores layout is obtained. The location of each item is greatly facilitated since, in addition to identifying and describing each item, code numbers are, at the same time, location (bin) numbers in stores, and cross reference files are eliminated. Time required to take inventory is shortened. Where mechanized accounting or electronic computers are in operation, record keeping is simplified and greater analytical information is obtained.

The technical skill and experience of designers are not curbed and the introduction of new materials is not deterred providing they are fully justified by technical improvement, better machinability or cost reduction. Design developments and engineering changes which are fully justified follow regular procedure but the numerical code, which provides a quick means to locate *all* existing similar drawings, prevents unnecessary parts from being designed by insuring that only essential new ones are created.

In the modern industrial scene, unnecessary variety needs to be eliminated and products need to be designed and produced from a minimum variety of materials and parts, with the aid of the minimum variety of tools and supplies, while at the same time improving sales appeal. To achieve this objective, systematic classification and coding must have high precedence in managerial strategy.

FELIX KAUFMAN

EDP and the Disenchanted

Is disillusion with electronic data processing justified?

Because there was so much fanfare when people first began to consider electronic data processing, it was natural that a tool with such radical possibilities would be watched with great interest. Electronic data processing has been evaluated through rumor and gossip, and in management literature almost from the moment the first user pushed the start button. Over a period of two to three years, observations, gossip, and surveys have blended with prejudice and hastily-drawn conclusions to form a general impression of the relative success and failure of EDP. One can hardly escape observing a certain note of disappointment in the evaluations he hears and reads.

I have been most interested in this disenchantment and have continuously compared the generally emerging picture with my own image of EDP. Much of the disenchantment—though not all—I believe stems from distortions caused by irresponsible observation and lack of insight into the general and specific problems of planning and implementation.

Accordingly, I shall attempt to put some of the success and failures of EDP into a more reasonable perspective. I do this on the basis of my own experience, which includes seeing new EDP situations every week, intermittent but frequent contact with a variety of operating installations, continuous contact with all of the principal manufacturers and other observers, and on a never ending examination of a constantly increasing volume of literature.

How can success or failure be measured? In

the electronic data processing business, there are some generally accepted reasons for using a computer and these, of course, are the obvious yardsticks of success or failure. To enumerate:

- An important motivation for changing systems is the expectation that clerical costs will be reduced.
- The new system should provide better data, either by its ability to manipulate information previously available, or because it can provide useful facts not formerly available.
- The new system provides additional benefits by improving the timeliness of data.

Given these as criteria, how does one go about measuring the effectiveness of systems? Obviously, the best way to get the feel of what's going on is to conduct a survey based upon a careful evaluation of what many users have accomplished.

This would pose many difficulties, not the least of which would be a definition of some standard of efficiency to provide a common starting point and the selection of a valid sample. But of more immediate concern in trying to assess the effectiveness of EDP is the fact that, to my knowledge, such a study has not been undertaken.

Accordingly, I must caution readers that what I have to say and what others have said and written is an assessment of the *mood* of the electronic data processing field. It has been

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arrived at by formal and informal discussion with users, manufacturers, consultants and others, each of whom has his special point of view, and must lack, to a greater or lesser extent, complete objectivity even concerning his own relatively narrow view of the total scene.

THE MOOD OF THE LITERATURE

An important element in the mood of the field—and in my impression of that mood—is of course the literature in the field.

"Assessment" articles began to appear during the Autumn of 1958, starting with an article in the *Harvard Business Review*.¹ Its title, "Never Overestimate the Power of a Computer," foreshadowed what we were about to hear from others taking the electronic data processing pulse. Shortly thereafter, a set of statistics collected by a consultant² were widely publicized and these have on at least two occasions during 1958, been quoted by popular publications. These statistics merit some analysis and I will do this later.

About the same time, *Fortune*³ had a piece dealing with management's indifference in dealing with the entire body of costs not entering into the "cost of goods sold," of which office costs were emphasized as a major segment. It is worth noting the major points made by this analysis:

1. It cited the traditional indifference of top management to the office and distribution cost areas.

2. It doubted that there are many cases where more information is needed. This was in connection with the claims made for electronic data processing's ability to produce more information.

3. It quoted a consultant who seemed to im-

ply that there ought to be an important lesson in his own experience in "never recommending a computer."

4. It suspected the direction given electronic data processing programs by controllers, as well as their efforts in controlling costs in their own backyard.

5. It cited what has now become an old saw (do a study for electronic data processing purposes and you'll discover major benefits without going to a computer) as evidence of the need for attention to basic improvements without mechanization.

In general, this article was not favorable to the computer cause.

More recently, we have had a survey article in *Business Week*,⁴ which seems to me to be the best assessment to date. It acknowledged many "false starts and mistakes," attributing them in the main to management errors stemming from the difficulties in spawning and directing a project which has unusual internal implications, places stress on established organizational relationships, and wants skills not provided by the previous experience of people assigned to the task. This article concluded on a very hopeful note.

Most recently, the "how-are-we-doing" type of note appeared in *Time*.⁵ Bad management was cited again and the accountants' role questioned. Equipment came off relatively unscathed.

This is by no means the entire story. In general, however, the points made in other articles have been about the same and, as often as not, have reflected corridor conversation at conventions.

What are the main points developed by this collective assessment? I would say they are as follows:

- Most failures are due to bad planning. The evaluations of these failures, however, have not explored in depth the rea-

¹ Lewis, R. F., "Never Overestimate the Power of a Computer," *Harvard Business Review* (September-October, 1957).

² John Diebold, Address to New York City Control of the Controllers Institute of America, March 13, 1958.

³ Stryker, Perrin, "What Management Doesn't Know Can Hurt It," *Fortune* (November, 1957).

⁴ June 21, 1958

⁵ January 26, 1959

sons for bad planning. None, to my knowledge, has explored bad planning as a likely prelude to getting into electronic data processing.

- The equipment by and large has been satisfactory, although there are some expressions of dissatisfaction encountered about failure to provide specific abilities.
- The manufacturers have oversold the product by exaggerating computer skills and by understating or ignoring costs.

This is the background against which I would like to consider the question of failure and accomplishment. In general, the mood is primarily one of disillusionment because early expectations were not fulfilled, but this is not necessarily accompanied by a sense of disappointment concerning the future.

EXTENT OF EXPERIENCE

Before proceeding to a more extensive consideration of the question, I would like to consider the extent of the evidence available for judging progress. This will at the same time serve to comment about the validity of statistics thus far employed to evaluate success or failure. As of the beginning of broad assessments of electronic data processing progress late in 1957 and early in 1958, the picture of use was about as follows:^a

<i>Type of Installation</i>	<i>Numbers in Use</i>
IBM 702	11
IBM 705	73
Univac I	36
IBM 650	750
Datatron 205	81

The important qualifications to this use picture are about as follows: (1) Of the group

^aIn late 1958, the picture was somewhat as follows:

<i>Type of Installation</i>	<i>Numbers in Use</i>
IBM 702	11
IBM 705	95
Univac I	60
IBM 650	800
Datatron 205	100

of machines with the full scope of electronic data processing capacity—large internal memory and extensive magnetic tape facilities—the IBM 705 was predominant. Since the first delivery of that machine was made early in 1956, the average 705 installation was about 18 months old on January 1, 1959. This is hardly long enough to put an integrated program on the air. (2) Of the group of major machines, about 120 in total, a substantial number were in use by government. In general, these systems are not subject to the same tests of effectiveness as commercial systems and should not be included without extensive qualification in an overall evaluation. (3) Of the group which is largest numerically, the smaller drum machine, the IBM 650 is dominant. Most of these machines, however, were card input—card output devices, since systems using magnetic tape were not delivered until 1957.

The conclusions one can draw from this picture are as follows:

- There were less than 100 full fledged (large scale) commercial systems in early 1958. They had an average age of about one year.
- The smaller machines, being predominantly card dominated, were not of the type to make a real mark on the overall systems of which they were a part.

In my opinion, the statistical evidence of a year and a half ago was slim. Moreover, the oft-quoted survey I have mentioned earlier based its conclusions on 300 responses. If these tended to represent an evenly distributed sample of the installations then in operation, the influence of major systems was very slight indeed. I conclude that our surveys to date are based upon evidence collected too early in the game.

However, although one may accept this qualification of the quantitative evidence, I must still deal with the general feeling that we are off to a slow start and that this is not com-

pletely exonerated by the infancy of the field. Therefore, the goal of this paper now is to consider the why and wherefore of disillusionment, given the absence of a body of conclusive evidence to repudiate that mood.

RIGHT TO FLOUNDER

I am surprised to find that all evaluations imply a higher order of competence for managers in general than we really ought to expect. I do not see that we have a good precedent for judging progress according to what progress would be if everyone knew what he was doing. May I call your attention to a point of view I describe by the term Coefficient of Institutional Friction. According to this, no organization ought to be evaluated according to that ideal of efficiency which systems men try to design into a procedure and managers feel they are always striving to achieve in practice. All organizations I know of operate around some level of inefficiency. The norm is forever a condition capable of much improvement. Poor organizations have more than *normal inefficiency*; good ones have less. I assume both types have acquired computers and I see no reason why the organizations with a tradition for doing things the hard way should change their stripes for this type of venture.

Accordingly, I come to the conclusion that some among the users are not capable of an efficient transition even though they may eventually produce what for them is a better system. This is hardly a weakness of electronic data processing—neither the equipment nor the concept. It is fulfillment of the normal range of expectations when the full range of talent—and lack thereof—tackles a major project.

ELECTRONIC DATA PROCESSING AS A CATALYST

A hazard in judging an electronic data processing program on its face is associated with the foregoing, and also associated with the now

famous proposition that a good survey can do so much without using a computer. This proposition certainly seems sound. However, as systems men will generally testify, we have all had experience with many situations where obvious improvements are long overdue, but cannot be achieved because of internal differences, organizational barriers, and other obstacles. In fact, in many cases we would just like permission—which we cannot get—to investigate some of these areas.

There are some situations—and I know of them—where electronic data processing has been undertaken by management knowing that it was the only effective way to eliminate archaic practices and modernize operations, even though careful analysis would reveal that other methods, perhaps less expensive, would do the job. The other methods lack impact and run the ever present risk of being corrupted after the existing organization gets its chance to mold the new system into its own image. In these cases, electronic data processing is being employed as a catalyst to facilitate change that will not otherwise occur. I think this is more often the case than most of us are willing to concede.

It is also worth mentioning that one of the most maligned early systems—one that has influenced the mood of the literature—was installed as a result of management's feeling that it was the best way to produce desirable organizational change. However, outsiders viewing its sluggishness in producing clerical cost savings and other obvious benefits, concluded that its sponsors just didn't know what they were doing.

ORGANIZATIONAL PROBLEMS

The same kinds of problems that prompt some managements to install electronic data processing for dramatic effect prompt others to proceed in the opposite direction. Perhaps the most common complaint about electronic data processing systems design is its tendency to

superimpose itself on existing methods of reporting and cumbersome manual methods. In this framework, it replaces some form of mechanization to produce a more elegant but not necessarily cheaper system. This approach is the favorite whipping boy for the critics. I think I can say a kind word even for those who have taken this tack—that is, if they knew what they were about when they did it.

What's right about this approach? I am convinced that all our talk about the necessity for breaking down departmental barriers treats too lightly the problems of the man who has to do the breaking. It's not an easy task and our trailblazer may know what he's up to when he uses the "infiltration" method—which means, get the system for modest, undramatic changes and then grow into other things. Obviously in the early period of such use, nothing sensational will happen to distinguish the system and it probably will be criticized.

Since this is the tack the unimaginative will also take, it is admittedly difficult to distinguish the bungler from the cunning fellow who proceeds this way deliberately.

I think criticisms of the accountants' role flow to some extent out of the delicacy of these organizational problems. In my experience the accountant is frequently aware of the opportunities lying outside of his own domain, but must give very careful thought to his *modus operandi* when he appears to be intruding into someone else's bailiwick. His life is further complicated by the integrating possibilities inherent in electronic data processing, since we cannot dismiss the controller's problem by telling him to shift electronic data processing responsibility to other departments. More often than not, the well-designed system should embrace his activity and the "outside" one and the latter may flow logically out of the former.

I must also add that many prospective users have created steering committees which appear to include the kind of non-accounting point of view the controller's critics say is needed. Not-

withstanding the inherent usefulness of this kind of representation, I would say, without hesitation, that I have not encountered the enlightened attitude among production men and engineers that some imply we should find. If anything, they have had less opportunity than the controller to become acquainted with electronic data processing possibilities and to provide the impetus for a new program.

ROLE OF EQUIPMENT

In continuing to cite what I could broadly call the extenuating circumstances behind false starts in electronic data processing, some consideration needs to be given to the role of equipment. Two points are important.

1. The experience of a few pioneer users who began with systems which we now recognize to have been somewhat limited has been grossly exaggerated by the literature dealing with this topic. The problem was compounded by the willingness of these early users to publicize their programs before results were available. Hindsight also tells us that these early users had serious adaptation problems to solve, which they did not recognize and about which, in a sense, they had a right to do some muddling. Reports about these systems have not put them in the proper perspective, considering these problems of equipment and planning.

2. We have been and still are dominated in numbers of systems by machines which take cards and make cards. These machines are not to be belittled. We have, however, tended to overlook their limitations. To begin, they are only important elements in a punch card system. Therefore, they must be utilized in a daring way if they are to seriously alter the existing procedures. Since this is not likely to happen, the justification for these machines rests mainly on the ability to employ them at a lower cost on a given volume of work now being performed by other machines. It is easy to show that these computers can experience considerable difficulty in getting the cost per unit of

work down to or below the devices they displace.

THE REAL INDICTMENT

Lest anyone conclude that the purpose of this article is simply to whitewash various failures, I shall now turn to criticisms which I share with others. Notwithstanding all of the reasons I have given to explain why management has some right to bungle in this field, there are many examples of atrocious planning in this business. These cases, mixed indiscriminately with the ones that have good excuses, account for whatever degree of disillusionment now exists.

Why the atrocious planning? This is no easy question—and it certainly isn't merely rhetorical, for I have always found the situation difficult to analyze and explain. This makes it difficult to provide you with a satisfactory explanation, but I will try.

My intuitive feeling is that management has approached this problem without the sense of humility it requires. Somehow or other, despite a flood of articles and speeches on traps and pitfalls, management at large has assumed that it had the experience, presumably from previous systems work, to go into EDP. Accordingly, in case after case, the work has been delegated almost altogether to personnel not properly equipped by training or background to do the job without appropriate direction. Of course, once the job is delegated to weak hands, management is in for trouble. Shortly, it will receive a report of findings which it personally has no competence to evaluate. These are the standard preliminaries to a bad system.

I must broaden the indictment in one respect and take sides with the most derogatory literature in this connection. Many installations are failing to produce predicted savings. This indicts the systems man on two grounds. First, he should have enough experience with "savings" to hedge his bets carefully—nothing is as elusive as the clerical saving attributed to

new methods. (Then, why isn't he more careful?) Secondly, he does a bad job in the area of cost analysis. He consistently ignores or understates preparation costs, fails to attempt a forecast of future volume, ignores the peripheral system surrounding the machine, understates the cost of permanent staff, and fails to time with sufficient care to evaluate the overtime requirement. Why? I attribute this failure both to poor training and failure to realize the importance of the cost analysis.

Management has also overrated the systems role of the manufacturer. On the smaller scale involvements with punch card accounting and bookkeeping machines, he grew accustomed to assistance from manufacturers in basic design. The enormous demands now being made upon manufacturers for service make it very difficult for them to provide the depth required for this kind of systems planning. Moreover, what the manufacturer provides must necessarily be planning oriented to a particular machine, but the right planning should be indifferent to specific equipment up to a point at least. In short, the manufacturer should emphasize his ability to discern areas where his equipment might be used and to prescribe the appropriate use for his equipment, given a broad blueprint.

CONCLUSIONS

In summary, this article has attempted to assess progress, or lack thereof, in EDP by paying more attention to the inherent nature of the obstacles and to the complications arising from them. As matters stand now, I believe the following points describe our present situation:

1. Evaluations of electronic data processing progress to date are not scientific. They are primarily intuitive and represent a mood rather than a measurement.
2. Such disillusionment as currently exists is in some part due to standards of attainment which are too high. We have behaved like perfectionists in our evaluations, without proper

regard for the substantial difficulties to be overcome in programs of this kind.

3. Many electronic data processing ventures have been or are unsatisfactory to a greater or lesser extent. This seems to be due to a propensity to mismanage this type of project, probably resulting from underestimating the

skills required or from overestimating the value of other types of experience.

4. Nothing in experience to date points to any inherent weakness in electronic data processing. With costs falling and experience increasing, the future is definitely favorable for the role of the computer.

"... machines will never replace the man as tomorrow's manager. In fact, he will have to be a broader, more competent and more unusual man than ever before. He will need:

- *A deeper appreciation of the effect and application of technology and mathematics.*
- *A broader understanding of the social and political environment in which business operates.*
- *A flexible analytical mind receptive to change and adaptation and the habitual skill of self-learning.*
- *A scale of values that admits that production is not an end in itself, but is a means to the elevation of man to higher levels of life and service."*

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FRED P. MORRISSEY

Inflation and Public Utility Regulation

This study shows that returns to utility stockholders have generally kept pace with inflation. But it raises the disturbing question that reported earnings may be illusory because of the inadequacy of depreciation allowances.

The public utility sector of our economy is worthy of close attention by the business community because of the magnitude of our resources devoted to this area. Excluding transportation, utility assets constitute 20 per cent of the total assets of all non-financial corporations in the U. S. and they employ directly about 1,320,000 persons, or 2.1 per cent of the entire labor force. Total revenue of public utility companies in 1958 approximated \$21.6 billion or about 6.9 per cent of the disposable personal income—a sum perhaps more significant if expressed as \$440.00 per family. However, it is even more remarkable to note that public utilities have been consuming 40 to 50 per cent of all new corporate security issues in recent years, or \$5.8 billion in 1958, \$5.4 billion in 1957 and \$4.25 billion in 1956. The enormous expansion of physical assets combined with the relatively small role of retained earnings creates this dependence on external capital.

Few people are aware of the size of these resources controlled by the decisions of utility management and regulatory commissions, yet the millions of investors in utility stocks are as vitally concerned as are the ratepayers and

employees. At projected rates of growth, \$5 billion to \$7 billion of new capital must be forthcoming annually to finance this regulated industry.

Utilities are not free to set their own rates. Rather, their prices are set by a regulatory commission to cover operating expenses and taxes and to allow sufficient residual earnings for bond interest and compensation for the equity investors. Traditionally, the allowed earnings have been computed by determining a "rate base," some measurement of the total invested capital, and multiplying this by a "rate of return"—a profit rate often 6 per cent to 7 per cent. A major controversy has developed in regulatory matters over whether the "rate base" should reflect not only the "original cost" of the property but some adjustment to reflect the higher current price levels, often referred to as the "cost of reproduction" at present prices, or "fair value," some combination of original cost and reproduction cost. The same effect (increasing the allowed earnings) can of course be derived by adjusting the "rate of return" upwards as well. It can be understood readily that without some adjustment of this nature, the income of the equity

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holder will tend to be constant in dollar amount with the real income declining as price inflation continues.

Price level changes in relation to utility regulation are not new problems. They appear to have been a fundamental issue at the turn of the century in *Smyth vs. Ames*,¹ and have come to the fore repeatedly since that time in every decade. The legal cases are so well known they need no listing here. One would expect businessmen and the legal profession to be well represented in the controversy, but academic economists have also taken part and have drawn support for economic, accounting, and legal theory. Prominent recent participants include James C. Bonbright, Eli W. Clemens, and Lionel W. Thatcher, who appear as opposed to price level adjustments, and Harry Gunnison Brown, H. B. Dorau, Joel Dean, William Paton, W. J. Graham, and Walter Morton taking the opposite position.

The postwar increase in the consumer's price index from 77 in 1945-46 to 123 in 1958, a 60 per cent increase, or from 103 when the Korean War began to 123 currently, a 19 per cent increase, is sufficient reason for a reappraisal of the issue. The prospect of unbalanced federal budgets in the next several years and the full-employment policies of the Federal Government, coupled with the economic power of labor's bargaining position and the acquiescence of employers, suggests continued upward pressure on the price level.

The first question one might ask, however, is, "Have utilities been adversely affected by inflation?" This, in turn, raises another question: "Are we concerned with the utility company itself, the stockholders, the resources represented by the physical assets, or even some other aspect?" Certainly the issues are too broad and complex to cover all in any detail. It is proposed to discuss three aspects here: The first, a brief report on a statistical study of how utility stockholders have fared in the

postwar inflation period relative to other stockholders; second, the treatment of depreciation as an operating expense; and third, some reference to rate base and earnings determination. In essence, then, three major problem areas of utility regulation will have been considered: rate base, expense determination, and allowed earnings.

In answer to the question, "Have utility stockholders been able to keep pace with inflation in the postwar period?" a statistical study is pertinent. The purpose of this statistical examination is not to prove that the return to utility stockholders has been adequate, inadequate, or excessive—it is rather merely to determine if they "have kept pace with inflation." To do this, various Moody's stock indexes were studied, including the 24 utilities, 125 industrials, 200 stocks, 24 railroads, 15 banks, and 10 insurance stocks, as well as American Telephone and 12 individual electric utilities included in Moody's 24 utilities.

The product of this study is shown in two indexes in Tables 1 and 2 (see pages 83 and 84). (The statistical method used will not be discussed here because it is not essential to the exposition but there is a brief summary of the technique in an appendix at the conclusion of this article.) The index in Table 1 is merely an index of the earnings-price ratio (the relation of the average market price to the reported earnings) realized in one, two, three, etc., years after purchase over the years 1946-1957, adjusted for purchasing power. The fact that the index for Moody's 24 utilities is commonly greater than 100 suggests that investors in utilities over this period *have* kept pace with inflation. Similarly, on Table 2 when one considers the market price in years subsequent to purchase, adjusted for purchasing power, the evidence suggests a similar conclusion. Only in the case of American Telephone and Telegraph Company does this method indicate investors have not kept pace with inflation.

¹ 169 U.S. 466 (1898)

There appears, then, to be support for the conclusion that the utility industry (with the exception of AT&T) has more than kept pace with inflation, from the stockholders' viewpoint. This assumes, of course, that the analysis above is accepted and that the earnings are accurately and reliably reported.

The latter assumption is a debatable one. A major expense item in utility rate-making is depreciation—and determined, as it commonly is, on the original cost of the physical plant, it approximates 10 per cent to 12 per cent of the operating revenues. Why raise a question of this expense item with regard to utilities? It is because depreciation carries greater significance for utilities than for industrial companies for several reasons. First, the life of a utility plant is typically much longer, and hence, as inflation continues, the dollars recovered through depreciation expense are of depreciated value in terms of their original purchasing power. Second, utility fixed plant and equipment make up a much greater proportion of total assets for utilities than for most industrials. Third, industrials have had access to the benefits of Section 167 of the Income Tax Code of 1954, commonly referred to as Liberalized Depreciation, whereas the utilities have not been able uniformly to acquire for their stockholders the benefits of this tax deferral (or, possibly, forgiveness).² Finally, it is a fact that non-regulated industry has been able to rely heavily on retained earnings and perhaps completely offset any understatement of depreciation.

Traditionally, the privately-owned utility sector of the economy has been the major area

² It appears that 10 state commissions to date have approved accelerated depreciation for rate making and have provided for normalization of taxes on the income statement. These include Georgia, Illinois, Indiana, Kansas, Kentucky, Michigan, New Mexico, Ohio, Oklahoma, and Wyoming. On the other hand, 8 state commissions, Illinois, Maine, Missouri, New Hampshire, New Jersey, North Dakota, Pennsylvania, and West Virginia, have required the tax differential to flow through and affect earnings. California is in the midst of extensive hearings on the matter.

of concern over price-level adjustments in the rate base, operating expenses, or rate of return (earnings for capital). But there is evidence that publicly-owned utilities are aware of this problem and have in fact taken action. In California, the Sacramento Municipal Utility District began operations in 1947 and now provides electricity to 425,000 people in an area of 653 square miles. The District followed the practice of accruing depreciation on its properties on a straight line method until 1957, when it adopted the principle of providing depreciation based on the *fair value* of its property. The Annual Report for 1957 stated at pages 23 and 24:

In periods of substantial inflation or deflation, because of changes in the purchasing power of the dollar, depreciation based on cost is not a fair measure of the property consumed in operations. This principle of accounting, sometimes referred to as "price level depreciation," recognizes that a utility should collect in revenues an amount to cover the fair value of its property consumed in operations if the real capital dedicated to the business (which for the District is the customers' equity) is to be maintained.

Accordingly the District provided for depreciation computed on historical cost, \$1,506,624, and \$665,000 additional to reflect increases in the price level, or an increase of 44 per cent. The equity of the customers (who are also the owners) was increased by a similar amount.

The British Central Electricity Authority appears to be moving in the same direction. A Committee of Inquiry, the Herbert Committee, which was appointed to review the organization and efficiency of the nationalized electric industry, concluded utility revenues should cover full cost of the resources used up in supplying the product, and that this principle required the provision of depreciation at current rather than historical costs.³ At the time of the investigation the industry had provided for depreciation at historical cost, but in 1954-55 a supplementary allocation of £10.5 million

³ *Report of the Committee of Inquiry into the Electricity Supply Industry* (London: Her Majesty's Stationery Office, 1956), pp. 87-89.

to depreciation reserve was made to take account of the increased cost of replacing assets. It appears that the depreciation based on historical cost approximated £63.6 million, but adjustment for current prices would require £80.7 million, or a 27 per cent increase.

Similarly, the British Telephone Service, operated by the Post Office, now provides extra depreciation based on the current value of the assets, rather than on their historical costs. For the year 1956-57, depreciation at historical cost approximated £27 million and the supplementary provision added over £16 million, or an increase of almost 60 per cent.⁴ This additional provision required a substantial telephone rate increase for subscribers.

The Swedish Telegraph Administration adopted the policy of depreciating capital equipment on replacement value (the book value corrected to take account of the decrease in the purchasing power of money) beginning in the budget year 1951-1952.⁵ The resulting increase in depreciation expense for the Swedish telephone industry is not reported. But it is recorded that replacement value of buildings was taken to be 61 per cent above book value, and telephone installation costs at 88 per cent above book value. This change in expense accounting in turn required a subscriber rate increase for the service.

Despite the general acceptance in some countries that total revenue should cover total resources consumed, the utility commissions in the U. S. A. have been very reluctant to accept "economic depreciation" for rate-making purposes. One obvious reason perhaps is that it would possibly increase rates in the short run, and no regulatory agency will deliberately provoke this result. Based upon the public ownership cases cited here, it seems that

publicly-owned electric utilities have been able to augment normal depreciation by appropriating "surplus," the excess of revenue over customary costs, without specifically increasing rates (otherwise a rate decrease would appear to be in order), but the telephone section has not been so fortunate. Another cause of reluctance is the concern over the uncertainties of the value or cost of the plant adjusted for purchasing power, the problems of technology, efficiency, etc., when replacement cost is considered. The Herbert Committee suggested the criterion of the real value of resources used up, namely, an allocation in any accounting period which would provide for the maintenance of capacity to deliver permanently the same number of kilowatts as the plant was capable of delivering in that period concerned. The most important deterrent to general acceptance of "economic depreciation" in this country, however, is the Federal income tax. For several reasons, Federal authorities cling to the misguided policy of allowing depreciation only on original cost of the assets. Therefore, regulatory commissions are free to claim that the allowance of extra depreciation expense would require a contribution by ratepayers in excess of 200 per cent of the net increase in depreciation expense over original cost depreciation. While there is political merit in the commissions' attitude, there may be little economic merit.

Yet we have several decisions which specifically favor and authorize depreciation expense adjusted for price level changes. The Indiana Commission called for a fair value rate base and:

... authorized the Indiana Telephone Corporation to accrue depreciation upon the basis of the cost of its property, repriced in current dollars; and (it should) file its annual report with this Commission showing depreciation expense accrued on the basis of original cost and on the basis of cost repriced in current dollars...⁶

⁴ *Annual Reports, 1957-58*, Telecommunication Engineering and Manufacturing Association (London) pp. 5 and 11.

⁵ Hans Heinburger, "The Financing of the Swedish Telegraph Administration's Investment Program," pp. 5-6. *Tele-English Edition*, #1-1953. Jubilee Issue to the Swedish Telegraph Administration's Centenary.

⁶ Decision of the Public Service Commission of Indiana in Cause #26794 and #26882, January 11, 1957, re Indiana Telephone Corporation. p. 12.

It might be added that the Texas Supreme Court apparently favored a similar position when it reported:

The item of depreciation of a given piece of property appearing in current expenses for rate purposes should be closely correlated with the "fair value" appraisal of the same piece of property from year to year, and the whole should be consistent.⁷

However, since depreciation was not an issue before the Texas Court, it did not pass upon it.

The Iowa-Illinois Gas and Electric Company situation merits some comment. The Supreme Court of Iowa stated in the Fort Dodge case that "depreciation must be calculated for rate-making purposes upon the adopted present fair value, and not on cost."⁸

The utility company has followed up this decision in a manner best described by reference to its annual report:

Our Board of Directors determined that fair value depreciation would be accrued to the extent collected.... We began charging to expense as additional, or "fair value," depreciation a total of \$60,000 per month.... From June to December, 1958, we accrued \$420,000 of fair value depreciation expense. After provision for income taxes which may be payable on the accrual, the balance of \$198,800 appears on the balance sheet in a capital maintenance account under shareholders' equity.⁹

No one can deny that this is a significant development in utility regulation and financing. Further, it represents a substantial departure from accepted accounting principles. One should not overlook the fact that the accounting treatment closely parallels that of the Sacramento Municipal Utility District, except that the income tax provision was absent in the latter.

The action of Iowa-Illinois Gas and Electric Company is a pioneering one in the private utility sector, and on balance, a favorable development. It is a recognition of the fact that

⁷ Texas Supreme Court, *Texas Railroad Commission vs. Houston Natural Gas Corporation*, No. A-5557 in 13 PUR 3d. at p. 105.

⁸ Supreme Court of Iowa, *Iowa-Illinois Gas and Electric Co. vs. City of Fort Dodge*. Filed Sept. 17, 1957, p. 27.

⁹ *Annual Report*, 1958, Iowa-Illinois Gas and Electric, p. 5.

aggregate utility revenues should cover total costs—and depreciation based on economic cost must be included as a cost item.

No panacea is to be found, however, in merely substituting economic depreciation, or fair value depreciation, or some other depreciation computation adjusted for price-level changes. Quite apart from the additional taxation and the uncertainties of accounting methods, there is the very major problem of determining the value of the assets which are to be depreciated. The many methods available for determining "fair value" leave much to be desired. One need only refer to the Fort Dodge case cited earlier: the trial court gave equal weight to original cost and reproduction cost. The Iowa Supreme Court however concluded "... greater weight on reconstruction value must be given to the extent hereafter indicated (70 per cent to 30 per cent)."¹⁰

Engineering appraisals to arrive at current value are far too subjective and inconclusive. The price index method of adjustment is perhaps the simplest but leaves two areas open for question: first, it tends to overlook technological improvements in service just as the reproduction cost method does. (Reproduction cost means reproducing the plant and not the service.) Second, it raises the issue of what *index* shall be used—a specific one for each item or classification of property, or a general index, such as construction costs, wholesale price index, etc. Despite the shortcomings of the latter, the index approach is probably the most desirable. Depreciation expense corrected in this fashion, even with its limitations, is preferable to continuing depreciation based on original cost.

There is left the issue of rate base. If one accepts "economic depreciation" as a proper expense, does it follow that a "reproduction cost" rate base must be used? Probably the answer is yes, but numerous difficulties arise:

¹⁰ *Iowa-Illinois Gas and Electric vs. Fort Dodge* (see note 8), p. 17.

First is the uncertainty associated with the computation of reproduction cost or fair value. And second, as pointed out later, the adequacy of the earnings is more important than the method of arriving at them. From an accounting standpoint it may be argued that the profit and loss statement would be on a current price level basis if "economic depreciation" is accepted, but that the balance sheet would be on an original cost basis, unless the balance sheet also was revalued. Such a situation may do violence to accounting theory, but it should be remembered that LIFO inventory policy presents the same situation and yet many accountants have learned to live with it, as has the Internal Revenue Service.

The debate over a proper "rate base" has been over-emphasized in utility rate-making. The composition of *any* rate base is subject to wide interpretation. The merit of an original cost rate base was supposed to be the ease of determination and exactness. Economists and textbook writers may be very specific about what an original cost rate base means (namely net book cost) but in practice there is very wide interpretation of what net book cost comprises. Certainly there is general agreement that net book cost includes plant in service less depreciation reserve. But there is considerable leeway whether materials and supplies, working cash, construction work in progress, and future plant additions are added in.

For example, in a recent case on the West Coast, the Commission found a rate base of \$188.5 million which was essentially the average net plant in the test period plus an allowance for working capital plus plant held for future use. If materials and supplies and plant under construction had been added, the rate base would have been increased to \$205.7 million or about a 9 per cent increase. In 16 different states recently, materials and supplies were included, and in 10 states, construction work in progress was a part of the rate base. But these are not all the possibilities for varia-

tion. For example, the use of the *average* rate base in the test period is often used, since it is supposed to represent the average investment of the utility and comports with the expenses of the test period. In a growing utility a good case can be made for an *end of test period* rate base as being more representative of the utility's future investment, recognizing that rate-making is prospective. In the case cited, the end of test year rate base would have been \$207.7 million or 110.2 per cent of that actually allowed. If the materials and supplies and plant under construction had been added to the year-end rate base, the total end of period rate base would have been \$223.8 million or 119 per cent of that used in the rate order. Again the end of test period rate base is not unusual and has been used in at least 14 recent cases. It is not difficult then to find variations as great as 20 per cent in what is commonly referred to as an "original cost" rate base.

It becomes clear then that the choice in regulation is not solely a rate base in terms of "fair value," reproduction cost, or original cost. The variations in theory and in practice are manifold. When one considers that the allowed rate of return can vary widely as well, the effect upon the earnings determination is intensified.

In effect, then, the real test is not what rate base should be used but rather the end result—the adequacy of earnings and service. The analysis of the treatment of equity investors in electric utilities would indicate that they have kept pace with inflation in terms of reported earnings and market price, and that the utilities have been able to raise many billions of dollars of new capital without impairing the market value of their securities.

How has the utility stockholder been able to do as well as indicated here? There are several reasons, perhaps all of substantial significance. In part, it may be said many utility commissions have abandoned the strict "original cost" rate base in the face of inflation. As indicated above, the component elements of any invest-

ment base are not precise, but there appears to be a tendency, by no means uniform, to anticipate large plant additions (at higher price levels) by including construction work in process, by using a year-end rate base, or even in many cases a *future* test period, reflecting adjustments for anticipated new plant and higher expenses as well. The latter is close to the *pro-forma* or projected balance sheet often seen in accounting usage. In any case, such adjustments may increase the rate base and give the equity stockholder greater allowed earnings. Of course, many sections of the country recognize "fair value" in the rate base—specifically Illinois, Pennsylvania, Ohio and Iowa, and provide equity holders a built-in protection against inflation.

California has not acted directly on the rate base but it has recognized the effect of "attrition" on earnings, as new high cost plant is added. Mr. E. F. McNaughton, Director of the Utilities Division, California Public Utilities Commission, reported before the New York Society of Security Analysts on June 3, 1953:

To allow for a decline in rate of return attendant upon the addition of high cost plan to meet growing demands for service and for other reasons, the Commission has increased the allowable rate of return by as much as one half of 1 per cent and sometimes more, to take care of the forecasted decline in rate of return. This allowance has been variously termed "slippage," "erosion" or "attrition" in the return.

It is not only regulatory action that has been responsible here however. The electric utility industry has witnessed substantial operating economies in many areas—both of a supply nature and of a demand nature. The latter is recognized in the greatly increased customer usage of electricity in the postwar period—much at off-peak periods so that capacity is more effectively used and more productive of revenue. In addition, the supply price is lowered by great strides in the operating efficiency of new installations. This combination (which appears absent in the telephone industry where operating costs have risen greatly due to the

large wage element) has kept electric companies out of repeated rate increase applications and has permitted rate reductions for some.

Finally, two other technical matters may be influential on this issue. Several of the least profitable electrics, e.g., Commonwealth Edison of Chicago, and Boston Edison, entered the postwar period with a low debt ratio. Hence they were able to take advantage of increased leverage as some debt was issued to the benefit of the equity holder. The latter may have been "saved" by the new debt and the additional leverage. Also most electrics have lowered their pay-out ratio, the proportion of earnings paid out in dividends, thus increasing the retention of earnings. The reinvested earnings are subject to a compound return over a period of years to the benefit of the stockholder. Accordingly, without pursuing exhaustively why the equity holder in the electric industry has kept pace with inflation, it appears to be a combination of regulatory intent and financial practice that has permitted it.

The determination of adequate or reasonable earnings for any single utility is difficult, but not impossible, because the regulatory commission has the results of the rest of the industry to act as a check upon its own actions. When any commission starts pioneering or innovating in any regulatory action the results become uncertain. But there is a much bigger issue about which an individual utility or regulatory commission can do little, namely the overall deficiency or adequacy of earnings for the utility industry as a whole. Capital attraction is not a test by itself because new capital in some quantity could be obtained even if earnings were very low, albeit at the expense of existing securityholders. We recognize the competitive aspect of the capital market, yet little is known about its operations as a whole, e.g., what are the determinants of savings, their channels, and the selection of ultimate investment media. Similarly, while some econ-

omists are positive about the calculation of the cost of capital, the determinants of cost of capital are many and hardly subject to precision. For example, the relevant concept of the cost of new equity capital in utility rate-making is the anticipated or expected return—the return which will induce new investment. Yet there is evidence only of the “realized” cost in some terms of earnings-price ratios or yields. This raises the further question of whether the “realized” cost is adequate compensation for the old equity investor, or whether a differential return should be considered as just and fair? Certainly there is much work to do in developing better criteria for the economic cost of capital—which can be defined briefly as the payment necessary for giving up liquidity and bearing the attendant risks of the investment. Yet it would be agreed that it is necessary that the economic cost of capital be covered in total revenues. Research into issues of this type may prove most valuable.

In summary, the commonly accepted end-result of utility regulation is to arrive at a reasonable level of earnings for the utility company — ensuring that investors’ property is being reasonably but not excessively compensated, that consumers are not exploited through unnecessarily high prices, and that the community as a whole is provided with service of adequate quantity and quality. To these criteria two qualifications can be added: the first is that the full costs of providing the service be recovered, specifically economic depreciation, and second that the utility stockholder be permitted protection against inflation. There is no merit in rendering the equity investor a junior grade preferred stockholder. Today this inflation protection appears to have been provided, but the accounting for the actual quantity of resources utilized is in doubt. The concern over the possible understatement of depreciation as an expense is not only a concern for the investor’s capital; rather, it is due to the fact that revenues may not be ade-

quate to cover total *real* costs of providing the service. Hence, there may result a misallocation of economic resources because utility services are being offered below their real cost.

APPENDIX

Note on Method and Interpretation of Inflation Statistics

The relation of reported earnings to average market price was computed for each year to give the traditional earnings-price ratio in the year of purchase. Then for each year, the purchase price was related to reported earnings in each subsequent year, thus getting a lead relationship in terms of realized earnings and the purchase price. This was done for each year and is shown in Table 3 for Pacific Gas and Electric Company. The result is a ratio “Per Cent Return on Purchase Price Realized in Subsequent Years.” The earnings-price ratio in each year of purchase was averaged, as was the realized return in the first year following purchase, the second year, etc.

These averages permitted computation of an index showing the relation of the return realized in each consecutive year subsequent to purchase, compared with the year of purchase. The next step was to adjust each observation for the consumers’ price index, and Table 4 shows the per cent return on purchase price in subsequent years adjusted for price changes. The summary of similar data for other companies and for the indexes is shown in Table 1.

It is not enough to look at the adjusted rates of return, however, because these returns may be altered by market appreciation or depreciation. Accordingly, as Table 5 demonstrates, for Pacific Gas and Electric the relation of the average market price in each year subsequent to the year purchased is computed and the adjustment for price level changes is shown in Table 6. A similar index is prepared relating the adjusted market prices in years subsequent to year purchased, and appears at the bottom of the table.

The summary index for the sample companies is provided in Tables 1 and 2.

It can be concluded that the investors in utility stocks by either criteria, per cent return on purchase price, or market price changes, have been able to keep pace with inflation. Referring specifically to line 1, Moody's 24 utilities, it will be noted that the index never dips below 100 and in fact rises steadily through the eighth year.*

The validity of the index for Moody's 24 utilities is documented by the same pattern for each of the 12 electrics considered independently. It is to be noted that for even the very

* The decline in the ninth, tenth, and eleventh years is not statistically meaningful for three reasons: the number of observations is small, 3, 2, and 1 respectively; the earnings are heavily downgraded by the Consumers' Price Index in 1955, 1956, and 1957; and the high market price in 1946 is prominent in each case. Accordingly, the last three observations should be discarded as statistically insignificant.

low earning utilities such as Boston Edison, and Connecticut Light and Power, the stockholders have kept pace with inflation.

Again referring to Table 1, the index based on return on purchase price for the electrics compares quite well with the banks and insurance groups; e.g., in year five, these are 116, 114, and 113 respectively, while the industrials are 136, and the railroads 131. On the market price reference, Table 2, there is a greater disparity. The electrics in the fifth year show a performance better than the banks but below the insurance, railroad and industrial companies.

The only representation of the communications group here is AT&T. On the basis of return, the stockholders in AT&T have been very close to maintaining the purchasing power, but the market price test shows the opposite situation.

TABLE 1
PER CENT RETURN ON PURCHASE PRICE
ADJUSTED FOR PRICE CHANGES 1946-1957 — INDEX BASIS

	Year of Purchase	Years After Initial Purchase										
		1	2	3	4	5	6	7	8	9	10	11
Moody's 24 Utilities.....	100.0%	101.6%	105.3%	110.0%	114.0%	116.0%	119.6%	121.8%	124.5%	122.6%	110.2%	95.2%
Moody's 125 Industrials.....	100.0	109.7	118.8	126.6	133.5	136.3	145.6	157.7	168.5	170.0	159.1	139.5
Moody's 200 Stocks.....	100.0	108.2	116.4	123.3	129.5	131.9	139.5	148.6	156.5	156.7	145.2	125.3
Moody's 25 Railroads.....	100.0	108.4	115.0	122.5	129.3	130.7	135.8	135.5	133.1	127.4	112.5	80.6
Moody's 15 Banks.....	100.0	100.1	103.0	107.2	110.8	114.2	117.6	119.0	121.8	121.4	115.7	102.2
Moody's 10 Insurance.....	100.0	107.3	112.7	113.0	111.6	113.2	115.5	112.5	108.4	105.8	86.6	63.2
Consol. Ed. of N. Y.....	100.0	100.9	105.1	109.8	115.4	119.9	126.0	130.1	134.0	133.1	119.7	102.3
Clev. Elec. Illum.....	100.0	103.7	109.9	116.6	122.1	125.3	130.1	133.0	137.5	141.3	132.3	114.4
Pac. Gas & Elec.....	100.0	99.3	101.4	104.3	108.1	108.7	110.8	110.2	107.8	103.7	91.9	80.1
So. Cal. Edison.....	100.0	103.9	108.4	113.3	113.1	111.1	111.1	109.2	113.0	112.2	99.6	79.8
Boston Edison.....	100.0	98.9	99.2	100.3	100.6	99.5	98.8	96.3	95.6	93.3	81.5	68.1
Com. Edison.....	100.0	100.0	102.1	106.2	110.3	111.9	115.2	115.6	116.6	112.5	101.6	89.6
Tampa Electric.....	100.0	105.9	116.2	129.1	139.2	145.8	155.8	163.6	172.6	173.6	161.7	149.3
Phil. Electric.....	100.0	101.3	104.5	123.3	113.1	113.5	117.2	119.2	120.9	118.2	108.7	94.6
Balt. Gas & Elec.....	100.0	99.7	101.7	105.1	106.7	105.9	108.1	109.9	114.3	111.4	99.3	89.3
Cent. Hudson Gas & Elec.....	100.0	103.9	111.0	119.8	127.0	132.5	138.0	139.4	142.1	137.2	118.1	96.4
Conn. Light & Power.....	100.0	99.2	100.8	103.3	104.4	103.6	105.8	105.6	106.9	102.8	96.4	83.8
Detroit Edison.....	100.0	102.7	106.4	111.6	114.8	115.2	117.4	119.3	122.0	123.0	113.1	106.7
A. T. & T.....	100.0	99.0	101.0	102.2	102.4	99.7	98.1	97.0	96.1	92.0	83.5	72.0

TABLE 2
PER CENT MARKET PRICE IN SUBSEQUENT YEARS TO YEAR OF PURCHASE 1946-1957 — ADJUSTED FOR PRICE CHANGES

	Year of Purchase	Years After Initial Purchase										
		1	2	3	4	5	6	7	8	9	10	11
Moody's 24 Utilities.....	100.0%	100.8%	105.0%	111.4%	117.5%	122.1%	127.3%	131.2%	135.4%	132.7%	118.8%	100.7%
Moody's 125 Industrials.....	100.0	107.6	121.1	137.0	151.8	164.8	182.3	204.6	228.5	238.7	231.4	200.0
Moody's 200 Stocks.....	100.0	105.9	117.1	130.4	142.7	153.4	167.2	184.1	202.2	207.8	198.6	169.6
Moody's 25 Railroads.....	100.0	101.8	109.6	118.9	127.8	137.1	147.6	155.1	159.8	153.5	137.6	99.6
Moody's 15 Banks.....	100.0	99.6	102.2	106.3	109.3	111.4	114.0	115.8	118.5	116.8	105.9	89.9
Moody's 10 Insurance.....	100.0	104.8	113.6	125.1	136.1	145.3	157.3	169.9	184.6	190.1	177.3	156.3
Consol. Ed. of N.Y.....	100.0	100.8	106.4	114.4	122.2	128.8	136.5	142.3	147.3	142.8	122.8	98.3
Clev. Elec. Illum.....	100.0	102.1	108.3	116.0	112.5	127.3	134.5	140.2	147.8	149.6	138.8	116.5
Pac. Gas & Elec.....	100.0	98.5	100.2	103.8	106.9	108.3	110.0	109.7	109.7	104.7	92.2	78.8
So. Cal. Edison.....	100.0	100.5	104.2	109.7	113.1	114.6	118.0	121.1	126.4	127.9	113.3	96.0
Boston Edison.....	100.0	97.3	97.3	99.4	100.5	100.8	101.8	100.6	99.8	95.8	81.8	69.2
Com. Edison.....	100.0	98.9	101.2	105.5	110.0	112.6	115.6	116.7	117.8	111.6	98.3	82.4
Tampa Electric.....	100.0	107.4	102.6	138.2	156.4	172.5	190.7	209.4	229.2	236.0	219.0	195.2
Phil. Electric.....	100.0	100.0	103.3	109.0	114.3	117.6	122.6	125.6	128.8	124.0	109.2	92.4
Balt. Gas & Elec.....	100.0	99.5	101.4	105.3	108.0	108.1	110.5	112.2	116.1	112.7	98.2	87.4
Cent. Hudson Gas & Elec.....	100.0	100.7	106.3	114.6	122.5	128.7	137.0	141.7	146.8	141.5	118.4	93.3
Conn. Light & Power.....	100.0	98.5	98.9	101.0	102.8	102.4	104.9	103.1	104.3	100.2	90.4	78.8
Detroit Edison.....	100.0	101.8	105.6	111.7	117.5	122.3	126.4	129.6	133.5	133.4	123.1	115.5
A. T. & T.....	100.0	96.6	95.6	95.8	95.4	93.7	92.4	91.2	90.4	85.6	76.7	65.5

TABLE 3
PACIFIC GAS AND ELECTRIC COMPANY
PER CENT RETURN ON PURCHASE PRICE IN SUBSEQUENT YEARS — 1946 TO 1957

Year Purchased	Earnings Per Share	Purchase Price	Earnings- Price Ratio (c=a÷b)	Per Cent Return on Purchase Price in Subsequent Years (d) = Earnings each year in Col. (a) ÷ Purchase Price in Col. (b) for each year										
				1	2	3	4	5	6	7	8	9	10	11
1946.....	\$2.72	\$41.94	6.49%	6.13%	5.98%	5.01%	6.25%	5.10%	6.01%	7.42%	6.89%	7.92%	8.25%	8.13%
1947.....	2.57	38.56	6.66	6.51	5.45	6.79	5.55	6.54	8.07	7.49	8.61	8.97	8.84	
1948.....	2.51	33.31	7.54	6.30	7.87	6.42	7.57	9.34	8.68	9.97	10.39	10.24		
1949.....	2.10	32.19	6.52	8.14	6.65	7.83	9.66	8.98	10.31	10.75	10.59			
1950.....	2.62	33.13	7.91	6.46	7.61	9.39	8.72	10.02	10.45	10.29				
1951.....	2.14	33.31	6.42	7.57	9.34	8.68	9.97	10.39	10.24					
1952.....	2.52	36.00	7.00	8.64	8.03	9.22	9.61	9.47						
1953.....	3.11	37.25	8.35	7.76	8.91	9.29	9.15							
1954.....	2.89	42.81	6.75	7.76	8.08	7.97								
1955.....	3.32	48.75	6.81	7.10	6.99									
1956.....	3.46	50.38	6.89	6.79										
1957.....	3.41	47.63	7.16											
Avg. 1946-1957.....	.....	.....	7.04%	7.19%	7.49%	7.84%	8.31%	8.55%	8.96%	9.18%	9.12%	9.04%	8.55%	8.13%
% of Average E/P Ratio	.....	.....	100.0%	102.1%	106.4%	111.4%	118.0%	121.4%	127.3%	130.4%	129.5%	128.4%	121.4%	115.5%

TABLE 4
PACIFIC GAS AND ELECTRIC COMPANY
PER CENT RETURN ON PURCHASE PRICE, ADJUSTED FOR PRICE CHANGES — 1946-1957

Year Purchased	Earnings— Price Ratio	Per Cent Return on Purchase Price in Subsequent Years, Adjusted for Price Changes (b) = Table 3, Col. (d) ÷ Price Index in Given Year										
		1	2	3	4	5	6	7	8	9	10	11
	(a)											
1946	6.49%	5.35%	4.85%	4.10%	5.07%	3.83%	4.42%	5.41%	5.01%	5.77%	5.92%	5.64%
1947	6.66	6.05	5.11	6.31	4.78	5.51	6.74	6.23	7.18	7.37	7.02	
1948	7.54	6.36	7.87	5.94	6.86	8.39	7.77	8.93	9.19	8.76		
1949	6.52	8.06	6.10	7.02	8.59	7.96	9.16	9.42	8.97			
1950	7.91	5.98	6.89	8.44	7.81	8.99	9.25	8.80				
1951	6.42	7.40	9.06	8.39	9.66	9.92	9.46					
1952	7.00	8.57	7.94	9.14	9.38	8.94						
1953	8.35	7.74	8.90	9.14	8.71							
1954	6.75	7.78	7.98	7.61								
1955	6.81	7.00	6.66									
1956	6.87	6.55										
1957	7.16											
Avg. 1946-1957	7.04%	6.99%	7.14%	7.34%	7.61%	7.65%	7.80%	7.76%	7.59%	7.30%	6.49%	5.64%
% of Average												
E/P Ratio	100.0%	99.3%	101.4%	104.3%	108.1%	108.7%	110.8%	110.2%	107.8%	103.7%	91.9%	80.1%

TABLE 5
PACIFIC GAS AND ELECTRIC COMPANY
PER CENT MARKET PRICE IN SUBSEQUENT YEARS TO YEAR PURCHASED — 1946-1957

Year Purchased	Purchase Price	Per Cent Market Price in Subsequent Years to Year Purchased (b) = (a) for Subsequent Year ÷ (a) for Base Year										
		1	2	3	4	5	6	7	8	9	10	11
1946.....	(a) \$41.94	91.9%	79.4%	76.8%	79.0%	79.4%	85.8%	88.8%	102.1%	116.2%	120.1%	113.6%
1947.....	38.56	86.4	83.5	85.9	86.4	93.4	96.6	111.0	126.4	130.6	123.5	
1948.....	33.31	96.6	99.4	100.0	108.1	111.8	128.5	146.4	151.2	143.0		
1949.....	32.19	102.9	103.5	111.8	115.7	133.0	151.4	156.5	147.9			
1950.....	33.13	100.6	108.7	112.5	129.2	147.2	151.1	143.8				
1951.....	33.31	108.1	111.8	128.5	146.4	151.2	143.0					
1952.....	36.00	103.5	118.9	135.4	139.9	132.3						
1953.....	37.25	114.9	130.9	135.2	127.9							
1954.....	42.81	113.9	117.7	111.2								
1955.....	48.75	103.3	97.7									
1956.....	50.38	94.5										
1957.....	47.63											
Avg. 1946-1957.....	.....	101.5%	105.2%	110.8%	116.6%	121.2%	126.2%	129.3%	131.9%	129.9%	121.8%	113.6%

TABLE 6
PACIFIC GAS AND ELECTRIC COMPANY
PER CENT MARKET PRICE IN SUBSEQUENT YEARS TO YEAR PURCHASED 1946-1957 — ADJUSTED FOR PRICE CHANGES

Year Purchased	Purchase Price Index	Index of % Market Price in Subsequent Years to Year Purchased — Adjusted for Price Changes (b) = Table 5, Col. (b) + Price Index for Base Year										
		1	2	3	4	5	6	7	8	9	10	11
	(a)											
1946.....	100.0%	80.3%	64.4%	62.9%	64.1%	59.7%	63.0%	64.7%	74.2%	84.6%	86.2%	78.8%
1947.....	100.0	80.3	78.3	79.8	74.4	78.6	80.6	92.3	105.4	107.3	98.1	
1948.....	100.0	97.6	99.4	92.6	97.9	100.4	115.0	131.4	133.8	122.3		
1949.....	100.0	101.9	95.0	100.3	102.9	117.9	134.6	137.2	125.2			
1950.....	100.0	93.1	98.5	101.1	115.7	132.1	134.6	123.0				
1951.....	100.0	105.7	108.4	124.3	141.9	144.4	132.0					
1952.....	100.0	102.7	117.6	134.2	136.6	124.9						
1953.....	100.0	114.6	130.8	133.1	121.7							
1954.....	100.0	114.2	116.3	106.2								
1955.....	100.0	101.8	93.0									
1956.....	100.0	91.4										
1957.....	100.0											
Avg. 1946-1957.....	98.5%	100.2%	103.8%	106.9%	108.3%	110.0%	109.7%	109.7%	104.7%	92.2%	78.8%

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The Trend Toward More Equal Distribution of Income

An intricate complex of social and economic forces has served to diminish differences in income.

There is ample evidence that the distribution of income among low, moderate, and high income groups in America has become more equal today than it was 20 or 30 years ago.¹ For example, from 1929 to 1956 the average earnings of production workers tripled while those of engineers doubled. Engineers with ten years' experience made three times as much as beginning engineers in 1929 and two times as much in 1956. From 1939 to 1956, the percentage salary increase of government employees in the lowest scheduled grade was three times that in the highest grade.²

A variety of certain very broad trends, operating largely outside corporate influence, have tended to bring about income compression and, moreover, will continue to exert an influence during the next five to ten years. The

purpose of this article is to describe some changes in the distributions of people in terms of education, mobility, and homogeneity of certain large groups of people, and certain government, union, and corporate practices which have had a narrowing effect on the distribution of income.

EDUCATION

The greater equality in the amount of education of people is the most important factor tending to bring about greater equality of income. Chart 1 shows the shift to higher levels of the distribution of education by comparing the education of people between 25 and 34 with that of people between 55 and 64 in the United States. The modal number of years education for the 55 to 64 group is 8 while that of the 25 to 34 group is 12.

Not only has the younger group had more education, but, on the average, members of this group vary from one another in amount of schooling less than do those in the older group. Within the 25 to 34 years age group, the average difference between two individuals in years of schooling is only 3.3 years. This difference is 23 per cent less than the 4.3 year average difference in the 55 to 64 group.³ If

¹ Lee Soltow, "The Trend Movement in the Income Distribution in Wisconsin for Twenty Year Period," *Review of Economics and Statistics*, May, 1957; Simon Kuznets, "Shares of Upper Income Groups in Income and Savings," National Bureau of Economic Research, *Occasional Paper* 35, (1950); Earl Lewis, "Wage Dispersion in Manufacturing Industries," *Monthly Labor Review*, July 1956; Examples for specific groups are "Federal Classified Employees' Salary Changes," *Monthly Labor Review*, July 1957; "White Collar Employment and Income," *Monthly Labor Review*, April 1956; "Income of Lawyers in the Postwar Period," *Survey of Current Business*, Dec. 1956; and "Income of Physicians, 1929-49," *Survey of Current Business*, July 1951.

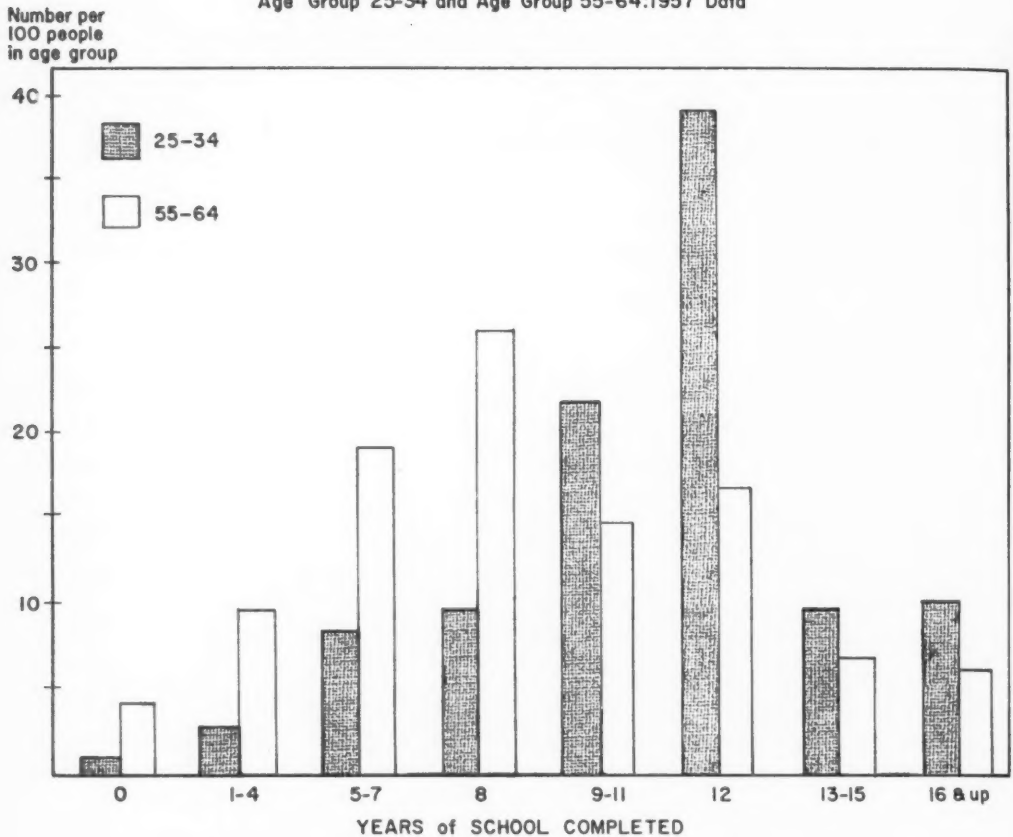
² National Industrial Conference Board data, *New York Times*, Dec. 16, 1956; Lewis, *op. cit.*, p. 818.

³ Gini's absolute mean difference which is the average of the differences of all the possible pairs of variate-values.

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CHART I

Years of School Completed per 100 Population by
Age Group 25-34 and Age Group 55-64:1957 Data



Source of data: Bureau of the Census, Current Population Reports
Series P-20, No. 77, pp. 3, 9.

income were distributed solely on the basis of formal education, the shift towards equality would indeed be rapid.⁴

Qualitative differences in education are not reflected in the data above. If it is granted that education keeps abreast of current technology, then it is true that education literally destroys experience differentials in many cases. This could be one of the reasons for the failure of salaries of older professional and technical employees to rise proportionately to those paid to

recent graduates of universities and technical schools.

MOBILITY

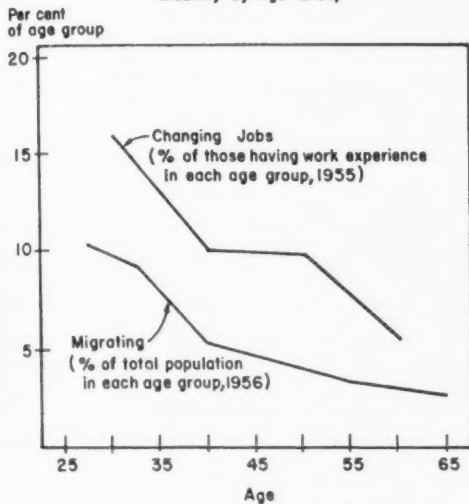
The mobility of labor in seeking its highest value is extremely important in the equality of income within both lower and higher income groups—and between these two groups as well. The fact that the young are more willing to migrate to different counties or states or to change jobs, as shown in Chart 2, is not surprising. This mobility of the young in a period of strong labor demand serves as a stimulus for a company's having rapid advancement opportunities for beginners and also as a reason

⁴The relative mean difference, essentially the coefficient of concentration or the absolute mean difference divided by the mean, is 40 per cent less for the 25 to 34 group than the 55 to 64 group.

for income narrowing. On the other hand, seniority and the advent of private pension and profit sharing arrangements with long vesting periods impede the mobility of older workers.

The comparative immobility of older groups can be effectively isolated in depressed labor markets or in a community affected by a plant shutdown in a period of full employment for the country. Studies of these depressed labor markets show that mobility seems to be much

CHART 2
Mobility by Age Group



Source: Bureau of the Census, Current Population Reports, Series P-20, No. 73, p. 11 and Series P-50, No. 70, p. 3.

more a function of age than of occupational training. Older workers are much more willing to accept lower skilled and lower paying jobs in the existing communities.⁵

Detailed historical data on mobility by age group are not available, so it cannot be argued that mobility is a stronger factor today in bringing equality than it was in the past. It does seem reasonable to state, however, that because companies hire through much wider areas and make use of private and public employment agencies,⁶ wage or salary differentials

⁵ "Unemployment in New England Textile Communities," "The Older Worker," "Effect of a Plant Shutdown in a Depressed Area," *Monthly Labor Review*, June 1955, Jan. 1957, Sept. 1957.

arising from space distances or lack of knowledge of labor markets are decreasing. Education itself stimulates mobility. Those with college training, of course, are more mobile than those with high school education.⁷

ATTRIBUTE CLASSIFICATIONS

The group falling within an "attribute classification"—such as native born-foreign born, urban-rural, married-unmarried—is thought to become more homogeneous as the percentage of the group to which one of the attributes (e.g., native born) applies increases beyond 50 per cent. Income differentials based on heterogeneous characteristics, then, decrease, as one of the factors in the attribute classification becomes less important. Consequently, the decrease from 1890 to 1950 of foreign born as a per cent of the native-foreign born attribute classification from 15 to 7 worked towards income compression. Similarly during this period, the rural population dropped from 65 per cent to 37 per cent of the total urban-rural classification, nonwhite from 12 per cent to 10 per cent of its classification, and unmarried males over 14 from 48 per cent to 32 per cent.⁸ These changes also have exerted a compressing influence on income.

The increase in the percentage of married men is double-edged in its implications for income differentials. Married men have greater financial responsibility and probably have greater motivation. They tend to take extra jobs to a far greater extent than other men.⁹ The decrease in the median marriage age, therefore, is both a cause and effect of greater starting incomes.

⁶ See U.S. Dept. of Labor, *American Workers' Fact Book*, section on the labor market.

⁷ Between 1935 and 1940, for example, the rate of those with one or more years of college education who moved between states was 50 per cent higher than of those completing high school. See *Statistical Abstract of the U.S.*, 1950, p. 19.

⁸ *Historical Statistics of the United States*, pp. 25, 30; *Statistical Abstract of the U.S.*, 1953, pp. 30, 31, 35, 38; *Current Population Reports*, Series P-20, No. 72, p. 2.

⁹ *Current Population Reports*, Series P-50, No. 80.

Running against all these factors which have a narrowing effect on the spread of incomes is the number of women entering the labor force, a very important aspect. Because women are mainly in unskilled and semi-skilled occupations, the spread of wage and salary rates for women's jobs may be narrower than that for men's jobs. Thus, because women's wages tend to be lower than men's, the combination of men and women in the labor force yields a wider spread of individual incomes than if it were solely men.¹⁰

The fact that the portion of women in the labor force has grown from 17 per cent in 1890 to 26 per cent in 1955 and is projected to increase to 34 per cent in 1975 may bring greater equality in terms of family income, but, unlike most other trends cited in this article, it is a factor bringing greater dispersion of individual incomes.¹¹

GOVERNMENT ACTION

Government action on taxation, transfer payments, minimum wages, and overtime payments tends to equalize the distribution of income. For example, there is a greater uniformity in the number of hours worked by individuals in manufacturing today, due, in part, to the cost of overtime payments.¹² Top bracket income tax rates, in acting as somewhat of a

dollar salary ceiling to top management, probably do have the effect of "squeezing" middle management salaries. The minimum wage law, which continues to exert pressure in certain low-paying industries, brings sharp compression of earnings.¹³

UNION PRACTICES

It is not surprising that many practices of unions contribute to income compression. The mere shift to centralized bargaining in general "decreases the variety and deviations because of less 'give and take' of negotiators familiar with local details."¹⁴ Unions are effective in eliminating or reducing interregional occupational wage differentials, as in the iron and steel industry.¹⁵

In contrast to equal-percentage wage increases, equal-cents-per-hour increases in wages diminish relative wage differentials, as does the tendency of unions to ask for specific occupational rate adjustments mostly for lower-paid groups in which there are the largest number of men. Union procedures in adjusting to a reduced volume of work through sharing agreements are another factor leading to greater equalization of income.¹⁶

CORPORATE PRACTICES

The vast increase in the amount of statistical material available on wages and salaries has served as an impetus for companies to pay competitively. This tends to bring much greater uniformity of payments since companies do not want to be literally "out of line" with any particular correlation procedure involving employee earnings. Moreover, since salaries of top executives are now known through proxy

¹⁰ See Earl Lewis, "Wage Dispersion in Manufacturing Industries," *Monthly Labor Review*, July 1956.

¹¹ Sophia Cooper, "Labor Force Projections to 1975," *Monthly Labor Review*, Dec. 1957, pp. 1444-1445; Bureau of the Census, *Annual Report on the Labor Force, 1956*, Series P-50, No. 72, p. 2.; Dept. of Labor, *American Workers Fact Book*, p. 11. The displacement of women for children in the labor force should be considered over the very long run. In Boston in 1875, children were the source of 25 per cent of the family income. "Profiles of Worker Family Living in Boston, 1875-1950," *Monthly Labor Review*, March 1957, p. 277.

¹² In studying one plant over a thirty-five year period, the author found that three-fourths of the decreased spread of wages among the men could be explained by the fact that the hours worked per week have become increasingly uniform. See "Income Equality in a Factory Payroll," *Southern Economic Journal*, Jan. 1959.

¹³ See "Effects of the \$1 Minimum Wage in Seven Industries," *Monthly Labor Review*, March 1957.

¹⁴ George Brooks, International Brotherhood of Pulp, Sulphite, and Paper Mill Workers, "Observations on the Changing Nature of American Unions," *Monthly Labor Review*, Feb. 1957.

¹⁵ "Wage Dispersion in Manufacturing Industries," *Monthly Labor Review*, July 1956.

¹⁶ "Layoff, Recall, and Work Sharing," *Monthly Labor Review*, Dec. 1956.

statements, these payments are more subject to public pressures. External data usually determine the structure of a company's wage and salary schedule, irrespective of how ornate a particular job or position evaluation system may be.

CONCLUSION

Various broad factors affecting the distribution of income between lower and higher paid employees have been examined. A relatively small group of young, better educated, highly

mobile, married, urban people has served as an impetus to a greater leveling of incomes. This influence will continue to exert itself gradually for some time, with the strongest force coming from greater equality of education brought about by the rapid shift upward in the amount of education of young age groups. Certain government, union, and corporate practices also exert influences raising lower income groups relative to higher income groups. It would seem that further compression of range in income is in the offing.

Another organization pathology is that of growth and decay. In biology, psychology, in crystallography, in economics, scientists talk of a "normal growth curve"—a process of growth, maturing, aging and decay. Historians from Thucydides to Toynbee have applied the concept to civilizations. Does it apply to the new social organization too? It applies to individual technologies, to individual markets, to individual products; but it does not apply universally. Fields of knowledge (law, for instance, or astronomy) and all the arts have kept on growing; and so have animal species. Where then does organization belong? How far can innovation change the growth curve of a business enterprise, for instance rejuvenate it, or at least delay its aging? Here too we need knowledge.

Peter F. Drucker

Landmarks of Tomorrow (Harpers, 1958)

JAMES B. BOULDEN
ELWOOD S. BUFFA

The Strategy of Interdependent Decisions

*How effective are you in making interdependent decisions?
Test yourself by playing the game below and compare your
performance with that of fifty-two other executives.*

You are the president of the Acme Relay Company. Your firm is the second largest producer of mechanical relays in the country and sells only in the commercial market. The directors of your firm have recently informed you that your objective is to maximize profits over the immediate planning period. Your principal competitor, the Best Company, is a large integrated electronics firm that has an assured market for mechanical relays through its own line of commercial electronic equipment. You have adopted the strategy of invading the military market for relays in 1959. This strategy calls for a series of tactical decisions.

The position in which you find yourself requires you to make a number of inter-related decisions. You must choose from among the series of alternative courses of action devel-

oped below. Your decisions must be based solely on the information and considerations as given.

1. Labor Dispute

You are presently involved in a labor dispute. The union has set a strike deadline of 12:00 midnight tonight if you do not accept their request for a 10 per cent wage increase. You are *certain that the union will carry out this threat and the resulting strike will cost you around \$300,000*. If you give in to their demand your total cost/relay unit will increase to \$4.05 as compared to the present cost of \$3.80/unit. You feel certain the union will be defeated if it strikes and therefore your present costs will remain fixed for the next year. You must decide:

UNION DISPUTE

Tactical Decision:

-A. I will give the employees the wage increase and suffer the higher cost of production.
.....B. I will stick to my present wage scale and suffer the resulting strike loss.

MR. BOULDEN is acting Assistant Dean of the School of Business Administration at the University of California, Los Angeles. MR. BUFFA is Associate Professor of Production Management, also at UCLA.

2. Government Contract

Your union tactics are complicated by the fact that the government is letting a large contract for 10,000,000 relay units within the next month and you will *not be in a position to bid on this contract if your employees go on strike.*

However, even if you give in to the union demands and avert a strike you still are not assured of getting the contract unless you can underbid your competitors. Your possible bids and resulting probabilities of winning the contract are as follows:

GOVERNMENT CONTRACT

Tactical Decision:

.....X	Not eligible to bid on company strike. (See "B" decision above.)	
	<i>Price/unit</i>	<i>Probability of Getting Contract</i>
.....C.	I will bid \$4.15	30%
.....D.	I will bid \$4.12	50
.....E.	I will bid \$4.10	60
.....F.	I will bid \$4.07	80

3. Test Equipment Investment

Fortunately a second major government contract is anticipated in the latter part of the year if you do not receive the lucrative contract mentioned previously. (Because of production limitations *it will not be possible for you to assume both contracts* should you receive the first contract.) To be in a position to bid on the second contract, it is necessary at this time for you to secure adequate financial backing to guarantee the government

you can provide certain expensive testing equipment should you receive the contract.

The larger the test facilities you can provide the more likely it is that you will be awarded the contract. The anticipated net profit for this second project is \$3 million if your unit cost is \$4.05, and \$4 million if your unit cost is \$3.80. This figure *does not include the large investment in special test equipment* which must be written off over the life of the contract.

TEST EQUIPMENT INVESTMENT

Tactical Decision:

	<i>Investment</i>	<i>Probability of Getting Contract</i>
.....G.	I will invest \$2,000,000	20%
.....H.	I will invest 2,400,000	40
.....I.	I will invest 2,600,000	50
.....J.	I will invest 2,900,000	60

Note: You may wish to solve this problem independently before proceeding to the remainder of the article where you will be given an opportunity to compare your performance with that of other executives. In making these decisions, you should restrict your analysis to the short-run, simplified framework of the problem as stated. Other important considerations such as taxes should be ignored for the purposes of this problem.

THE SOLUTION

How many alternatives?

First, we must see the structure of the various alternatives open to the decision-maker. This structure is shown in Exhibit 1 and it may be a surprise to see that there are 20 alternatives. The 20 alternatives are divided into 16 that result if the basic strategy A (no strike) is adopted, plus 4 more that are associated with the basic strategy B (take the strike).

We recognize that if B is followed we may bid only on the second contract so that we have only the alternatives BXG, BXH, BXI, and BXJ. Recall that X denotes the fact that we cannot bid on the first contract because of the strike. On the other hand if we follow the basic strategy A, both contracts are open to us even though we can actually accept only one of them because of production limitations. Therefore, our strategy can combine both contracts.

If we are awarded the first contract we cannot accept the second. If we lose the first we still have a chance for the second. Therefore, since there are four basic alternatives of bidding for the first contract, and four for bidding for the second contract, there are 16 possible combinations (4×4). We shall head each of the 16 by A (no strike) and we have ACG,

ACH, ACI, and ACJ which are all of the combinations of C with the four basic alternatives of the second contract. The other combinations are ADG, ADH, ADI, ADJ, AEG, AEH, AEI, AEJ, AFG, AFH, AFI, and AFJ.

How to compute?

Let us take the computations for the simpler situations first, those headed by B (take the strike). For each of the four alternatives we can calculate by ordinary arithmetic how much we would make by each alternative if we actually received the contract. We have a net profit of \$4 million from which we must deduct the required investment in test facilities. But the resulting figure must be tempered by the fact that we may not receive the contract. Therefore, BXG yields a possible profit of \$2 million after the investment is deducted, but the probability of receiving the contract with the small investment in test facilities is very low—only 20 per cent. Therefore, the value of this alternative in relation to the others is only 20 per cent of \$2 million or \$400,000. From this we must deduct the sure loss of the strike of \$300,000 so that the final resulting relative value of BXG is only \$100,000. The results for the four "strike" alternatives are given in Exhibit 2.

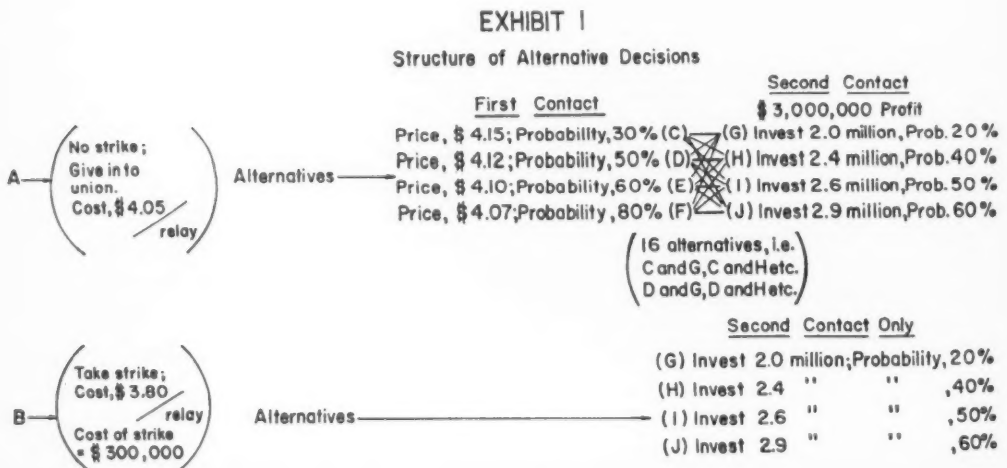


EXHIBIT 2
RESULTS FOR "STRIKE" ALTERNATIVES

(1) Alternative	(2) Net Profit From Contract	(3) Less Required Investment	(4) Equals	(5) Probability of Receiving Contract	(6) (4) × (5) Expected Net Value of Contract	(7) Less the Sure Loss of the \$300,000 Cost of the Strike
BXG.....	\$4,000,000	\$2,000,000	\$2,000,000	20%	\$400,000	\$100,000
BXH.....	4,000,000	2,400,000	1,600,000	40%	640,000	340,000
BXI.....	4,000,000	2,600,000	1,400,000	50%	700,000	400,000
BXJ.....	4,000,000	2,900,000	1,100,000	60%	660,000	360,000

Thus we see that the probability figure enters the computations directly and in a very important way. The possible return may be very high, e.g., for BXG it is \$2 million minus the strike cost, but if the probability is very low the relative value of the alternative is low since we may have an excellent chance of actually getting the more modest returns of other alternatives. It is exactly comparable to the contrast of playing the long shots at the race track at high odds versus playing the sure winners at low odds.

The computations for the A (no strike) alternatives are a little more complex but the basic ideas of the possible returns tempered by probabilities of attainment remain the same. The slight complication comes in the fact that we cannot accept both contracts. Therefore, for each combination we must calculate:

(Possible return from first contract) ×
(Probability of receiving first contract) +
(Possible return from second contract) ×
(Probability of receiving second contract,
and not receiving the first contract)

Thus we have a probability weighted value of the first contract plus a probability weighted value of the second contract, and this latter probability allows for the fact that we might not get the first contract.

This latter probability value is easy to calculate. We may view it this way. If the probability of getting the first contract is 20 per cent, then the probability of *not* getting it is 80 per cent. If the probability of getting the

second contract is 40 per cent, then the combined probability of getting the second, and losing the first is 80 per cent multiplied by 40 per cent, i.e., 0.80×0.40 , or 32 per cent. Let us illustrate with the alternative ACG:

First contract:

10,000,000 relay units

Price/unit = \$4.15

Cost/unit = \$4.05

Probability = 30%

Second contract:

Profit from contract = \$3,000,000

Required investment = \$2,000,000

Probability = 20%

Probability of getting No. 2 given that
No. 1 has been lost is $(1-0.30) \times 0.20$,
or 14%.

The calculation:

$10,000,000 (4.15-4.05) 0.30 + (3,000,000$
 $- 2,000,000) 0.14 = 300,000 + 140,000 =$
 $\$440,000$

The results of the relative value of the entire set of "no strike" alternatives are:

ACG—\$440,000	AEG—\$380,000
ACH— 468,000	AEH— 396,000
ACI— 440,000	AEI— 380,000
ACJ— 342,000	AEJ— 324,000
ADG— 450,000	AFG— 200,000
ADH— 470,000	AFH— 208,000
ADI— 450,000	AFI— 200,000
ADJ— 380,000	AFJ— 172,000

In every instance, the 16 alternatives of the A (no strike) series and the 4 alternatives of the B (strike) series, we now have expected or relative values. Each one is weighted by the probability of attainment. These are the important data for *decision* purposes.

It is important to recognize, however, that these data do not tell us actually how much we will make by each alternative. Rather they tell us relative values for decision purposes. Since ADH gives the highest relative value, let us assume that we choose it. Exhibit 3 tells us how much we *actually* make under the three conditions:

1. received first contract, dropped second,
2. lost first contract, but got the second, and
3. lost both contracts.

Thus, if we adopted ADH as our strategy, actually we may gain a net of \$700,000, \$600,000 or zero. But in *deciding* which of the 20 alternatives was best, it was wise to weight the possible return by the probability of attainment.

Rate Your Own Decision

How good is a given decision from the 20 possible alternatives? One good answer to this is to see what decisions were made by the executives from the UCLA Executive Program. These men are practicing business executives, used to making decisions. If you compare favorably with them, you are probably a pretty

EXHIBIT 3
PROFITS UNDER THREE CONDITIONS

	(1) Received first contract dropped second	(2) Lost first contract but got second	(3) Lost both contracts
Profit from contract.....	\$700,000	\$3,000,000	0
Invested to get second contract		2,400,000	0
Total profit....	\$700,000	\$ 600,000	0

good decision-maker. If not, perhaps your decision-making needs a bit of sharpening.

Exhibit 4 shows the decision combinations in rank order of their relative value as we calculated them. Beside this column we have brackets that indicate the cumulative per cent of the UCLA executives who made a given decision or better. For example, the top 10 per cent chose the best decision, ADH. But 17 per cent chose the combination ADI or better. This, of course, includes the 10 per cent who chose ADH.

EXHIBIT 4
DECISION SCOREBOARD

Rank Order of Relative Value of Decision Combination	Decision Combination	
1	ADH	Top 10%
2	ACH	
3	ADG	
4	ADI	Top 17%
5	ACI	
6	ACG	
7	BXI	Top 38%
8	AEH	
9	AEI	Top 45%
10	AEG	
11	ADJ	Top 94%
12	BXJ	
13	BXH	
14	ACJ	Top 98%
15	AEJ	
16	AFH	
17	AFG	
18	AFI	
19	AFJ	Top 100%
20	BXG	

Examples: The selection of ADG places one in the top 17% as compared to the UCLA executives. The selection of BXI places one in the top 38%, etc.

Performance Evaluation

Several of the executives saw fit to qualify their decisions by noting one or more of the following observations:

1. Recognition of the tax situation.
2. Long run consequences of higher wage structure.
3. Lack of historical financial data for the company and the industry.
4. Legal implications of the contract.
5. Misleading statement of the problem.
6. Interest rate considerations.

Certainly these are valid considerations and point up the difficulty of building any simple model of the actual business environment in which decisions must be made. The manager is faced with a complex situation with many important variables, many not easily quantifiable. Therefore, it is difficult to say in any business decision just how "good" it is.

Approximately 10 per cent of the executives in the program made the best possible decision out of the twenty alternatives. (The response distribution is shown on Exhibit 5.) Another 7 per cent narrowly missed the top decision, probably because they did not properly calculate the probability of the combined effect of not receiving the first contract and receiving the second contract.

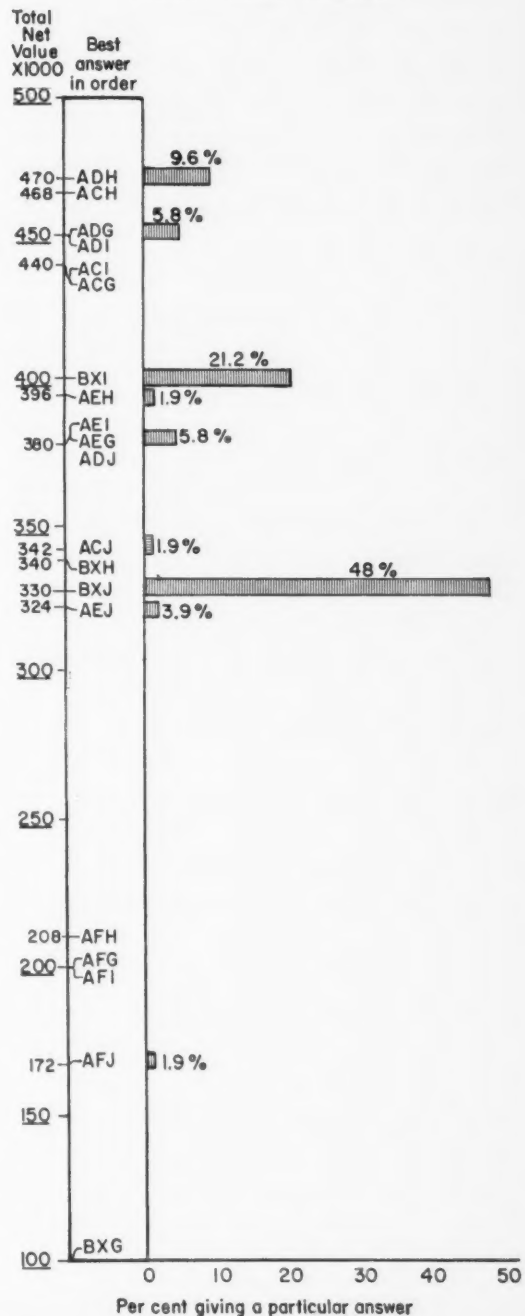
Another 15 per cent of the executives made the best possible decision sequence involving a strike. Some of these executives stated that they were against giving in to the union because of long run consequences on the company cost structure while others stated that they would not give in "just on the principle of the thing." Still others stated that they failed to consider the cost of the strike.

Almost 50 per cent of the executives selected the "BJ" sequence. One reason for this error seems to be a conservative desire of the executives "to get that contract." (Note that none of the executives chose "BG" which was the most speculative but which carried the largest possible return.) One executive stated that he did not consider cost important on government contracts since they could always be renegotiated. Other executives evidently placed

greater emphasis on the strategy of invading the military market without consideration of the Return on Investment objective.

The average (as well as the mode) of the

EXHIBIT 5
Relative Decision Distribution



group was very close to the 10th best decision out of the possible 20. The distribution is rather bell shaped with a skew toward the high side. Significantly, there was only one really poor decision.

CONCLUSION

The American executive functions in an environment of incredible complexity. Frequently the manager finds himself in a situation with a multitude of variables and action alternatives. Certainly no mathematical model can duplicate this decision matrix. Nevertheless, it is often useful for the executive to ab-

stract from this complex reality in order to identify the critical variables and determine the nature of their interrelationships.

The decision-making situation presented in this article was necessarily simplified to make it suitable for quick analysis; however, this does not detract from the importance of the concepts used in the solution. The executive must weight the value of decision alternatives according to their probability of occurrence to determine the relative desirability. Why not take a fresh look at your own decision-making? You may be "attempting a draw to an inside straight."

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